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Occupational Health & Safety Division

FIVE YEAR REVIEW

1979 ~ 1984

Alberta

WORKERS' HEALTH, SAFETY
AND COMPENSATION
Occupational Health and Safety Division

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SAFETY AND COMPENSATION

Occupational Health
and Safety Division

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Alberta
WORKERS' HEALTH,
SAFETY AND COMPENSATION

Office of the Minister

203 Legislature Building, Edmonton, Alberta, Canada T5K 2B6 403/427-2331

May 1985

The Honourable Peter Lougheed
Premier of the Province of Alberta

I am pleased to present to you this review of the Alberta Occupational Health and Safety Program's operations for the five year period April 1st, 1979 to March 31st, 1984.

Respectfully submitted,

Bill W. Diachuk
Minister

Alberta
WORKERS' HEALTH, SAFETY
AND COMPENSATION
Occupational Health and
Safety Division

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May 1985

The Honourable Bill Diachuk
Minister Responsible for
Workers' Health, Safety and Compensation

In March of 1979 the Government of Alberta created your portfolio of Workers' Health, Safety and Compensation. On April 1st, 1979 the Occupational Health and Safety Division was transferred from Alberta Labour and the programs and services related to occupational health and safety became your responsibility.

I am pleased, therefore, to present to you this review of the Occupational Health and Safety Program's operations for the five year period April 1st, 1979 to March 31st, 1984.

The program has evolved and grown to a level of maturity and quality of service to Alberta employers and workers, which is equal to the best available in Canada. The program of review and improvement of the occupational health and safety legislation during this time has, in my opinion, provided Alberta's employers and workers with some of the most understandable, workable and protective legislation to be found in the industrialized world.

Respectfully submitted,

H. Buchwald

Herb Buchwald, Ph.D.
Managing Director

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HISTORICAL DEVELOPMENT OF THE PROGRAM

The government's role in occupational health and safety developed hand-in-hand with the developing industrial base of the province. Programs and standards became the responsibility of several government departments. Ten years ago, occupational health was the concern of the Department of Social Services and Community Health. Mines safety was administered by the Energy Resources Conservation Board. Accident prevention and related educational initiatives were the responsibility of the Workmens' Compensation Board.

With increasing nation-wide concern about environmental and occupational health and safety issues during the late 1960's and early 1970's, it was clear that the fragmentation of responsibilities had resulted in a lack of coordination and no clear identification of priorities.

Recognizing this, in 1974 the Alberta Government established the seven-member Gale Commission on Industrial Health and Safety, to make recommendations with respect to future directions. The Gale Commission presented its report in February of 1975. The recommendations of the Commission formed the basis of the present occupational health and safety program.

In April of 1976 the Occupational Health and Safety Division was established within the Department of Labour. This brought together the Industrial Health and Accident Prevention Programs. Mines Safety followed in 1978. The Occupational Health and Safety Act, providing legislative authority to the program, came into effect in December of 1976. Strengthening of the occupational health and educational components and the addition of research, mines safety and administrative support functions has resulted in a growth of the division from 106 full time staff in 1976 to 223 in 1984.

Close to 50% of the division's annual budget is refunded to the government through assessments made on employers by the Workers' Compensation Board, as authorized by the Occupational Health and Safety Act.

In 1979, the new portfolio of Workers' Health, Safety and Compensation was established, and the Occupational Health and Safety Division became one of the new Minister's responsibilities.

The Workers' Compensation Board and the Occupational Health and Safety Division are administratively separate entities. The division is like a government department of which the Minister is head and the Managing Director is the deputy head and division staff are government employees. On the other hand the board is a Crown Agency administered by a five member board, of which one member is the Chairman and Chief Executive Officer. The board is appointed by the Lt. Governor in Council, and is answerable to the Legislative Assembly through the Minister.

While the Workers' Compensation Board is responsible for the compensation and rehabilitation of injured workers and the assessment of employers to cover the costs of compensation, the primary concern of the Occupational Health and Safety Division is the prevention of illness and injury resulting from the workplace.

ROLE AND ACTIVITIES OF THE DIVISION

The division's primary objective is to work closely with employers and workers to promote, establish and maintain safe and healthy working environments.

Success in doing this rests at the workplace, with employers and workers.

The government can only act as advisor, consultant, and educator and as the enforcer of basic standards.

Most of the division's activities can be broken down into five key and interactive components, which can be summarized as follows:

1. Data Gathering and Processing

   There are many facets to this component, including:

   - collection and analysis of statistical data regarding accidents, injuries and disease;
   - collection and analysis of data from inspections, work site monitoring and investigations;
   - collection and analysis of data and information from other Canadian jurisdictions and from other countries.

   Without data it would be impossible to plan, implement and evaluate any rational and systematic preventive program.

2. Data Dissemination

   Preventive programs cannot be effective without the sharing of knowledge, at all levels. This component relies on a full range of activities from education and training to communication and promotion though all media.

   Also, because the division derives its authority principally from the Occupational Health and Safety Act, it is an important part of the division's function to make sure the provisions of the Act are properly understood and implemented.

3. Research

   Where there is a lack of knowledge or sufficient data with which to solve problems and make decisions, then research may be necessary to rectify the deficiency. A range of internal and funded research activities are undertaken in both the technical and human aspects of accident and disease prevention.

4. Development of Technology and Standards

Given the appropriate knowledge and urgency it is then possible to develop both technical and procedural solutions to the safety problems which have been identified. The solutions may include the development of healthful and safe operating procedures, standards, regulations and legislation, as appropriate.

5. Work Site Program

To be effective the preventive programs must be directed to the employers and workers at the work sites.

The effectiveness of the programs can only be evaluated by monitoring the results achieved at these work sites.

Naturally, the inspections and compliance enforcement activities must be included in this component.

These five components, or major activity areas, are obviously interrelated and require coordination and mutual support.

A concerted effort is made by all parts of the organization to operate in the most efficient and effective way. Considerable emphasis is placed on sound planning and coordination of division services.

As well, no organization can operate efficiently without appropriate administrative support services.

The **Administrative Services Branch** provides the following to maintain the division's functions in keeping with government policies:

Personnel services, including recruitment, classification, staff development, employee relations, and personnel policy development and enforcement.

Financial services, including coordination of the budget process, expenditure forecasting and control, accounting, revenue collection, and inventory control.

General administrative services, including purchasing, accommodation, mail delivery, parking, risk management, and records management.

STATISTICAL TRENDS

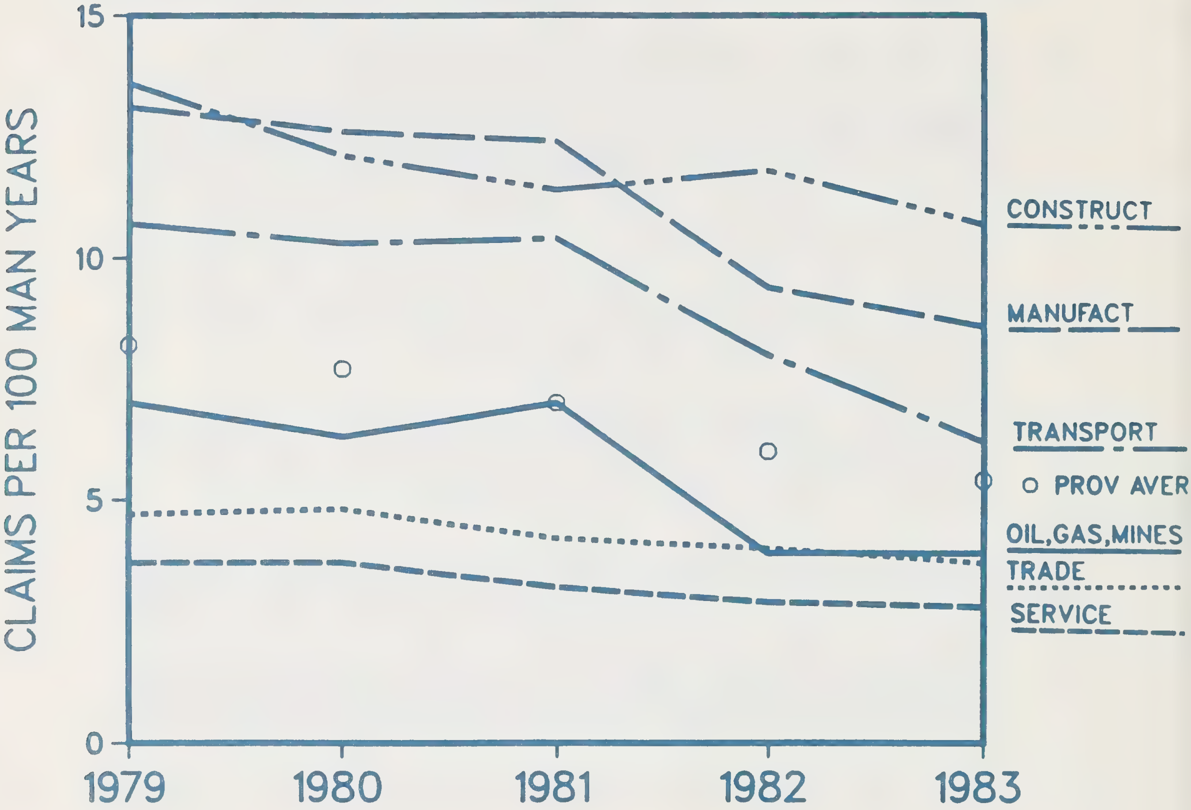
Lost Time Injuries and Illnesses, and Fatalities Investigated

Figure 1 shows the estimated lost time claims rates for six major industrial sectors for the period 1979 to 1983. ("Claims" refers to the number of work-related injuries and illnesses reported to the Workers' Compensation Board in each year and accepted as lost time claims by March 31 of the following year. "Man-years worked" refers to the Occupational Health and Safety Division's estimate of the number of full-time equivalent workers.) Figure 1 indicates that claim rates have declined in all sectors, with the largest decreases occurring in the more hazardous construction, manufacturing, transportation, utilities and communication, and oil, gas and mining sectors.

Both small and large employers showed improvement in estimated lost time claim rates between 1979 and 1983. However, the average small employer lost time claim rate has consistently remained higher than the average rate for large employers (see Figure 2).

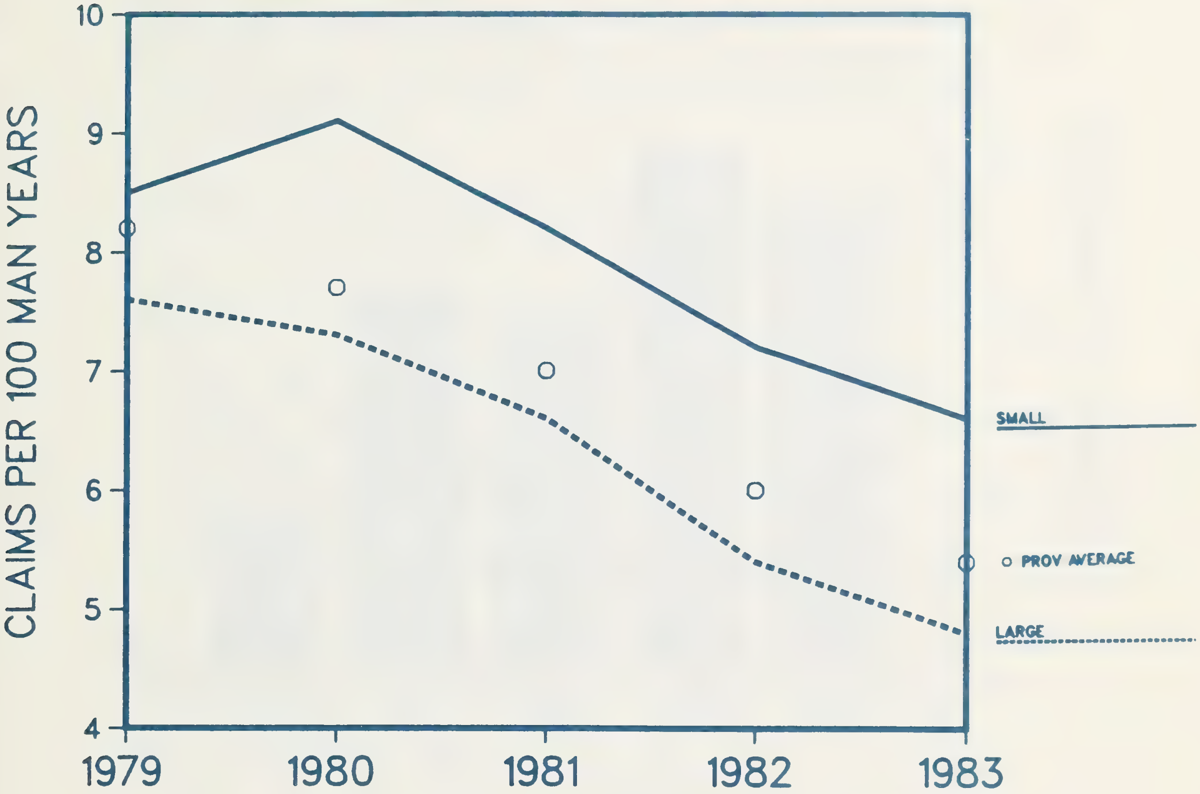
Figure 3 shows the number of fatalities investigated by Occupational Health and Safety Division officers for the five year interval under review. This figure excludes work-related fatalities arising from heart attacks, most highway, rail or air transportation mishaps, and accidents in industries under federal jurisdiction. It also excludes most fatalities arising from accidents to workers in occupations not designated under Alberta's occupational health and safety legislation (for example, farm workers).

FIGURE 1:LOST TIME CLAIM RATES BY INDUSTRY,1979-83



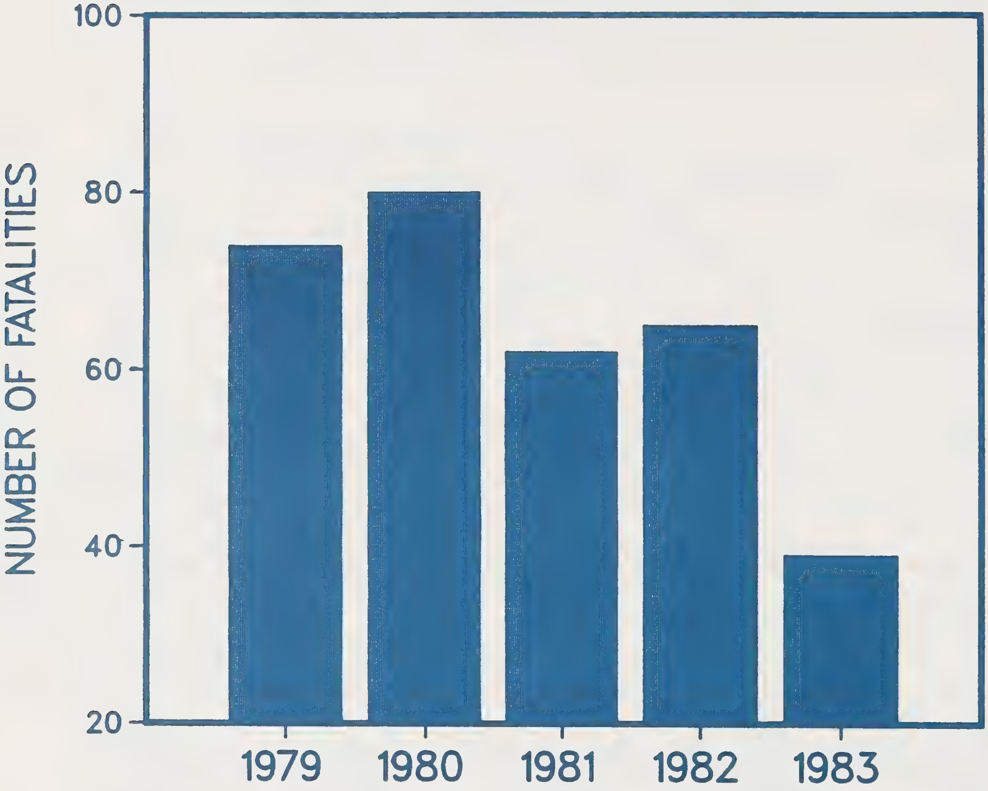
SOURCE:OHSD REPORT WHOH6102.1979-83

FIGURE 2:ESTIMATED LOST TIME CLAIM RATES BY SIZE OF EMPLOYER,1979–83



SOURCE:OHSD REPORT WHOH6102,1979–83
SMALL=0–39 WORKERS LARGE=40+ WORKERS

FIGURE 3:FATALITIES INVESTIGATED BY OHSD,1979–83



OHSD FATALITY DATA BASE,1979–83

SELECT COMMITTEES

The periodic assessment of a government's programs and policies is a vital ingredient of the accountability process. Such an assessment is carried out during each term of office of the Alberta Government through an all party Special Select Committee of the Alberta Legislative Assembly.

During the period under review there were two such committees established to hold public hearings, receive submissions and make recommendations on occupational health and safety to the legislature.

Initially established to review the Workers' Compensation Act, the 1979 Special Select Committee stated in its report:

> "While being specifically charged to review the Workers' Compensation Act and its administration, it became rapidly apparent to the Committee that matters relating to occupational health and safety were inextricably interwoven and had to be included in carrying out an in-depth review. This is reflected in the contents of this report and the Committee is clearly of the opinion that future Legislative Select Committees be charged to conduct a combined review of Workers' Compensation and Occupational Health and Safety."

The Select Committee, therefore, co-opted the division's Executive Director of Research & Education Services to assist and advise on occupational health and safety matters. In addition to reviewing the programs in Alberta, the committee examined those in West Germany, Sweden and the United Kingdom.

Among the recommendations the Select Committee included:

> "That greater attention must be directed towards those situations and working conditions that lead to, or have the potential to lead to, serious and disabling injuries."
>
> (The division has addressed this recommendation by identifying and focussing priority programs described elsewhere in this review.)
>
> "That every employer set forth a clearly defined safety policy in consultation with safety representatives of the workers at his workplace. The policy must also specify the methods by which the policy will be effected."
>
> (This recommendation was addressed in the Occupational Health and Safety Amendment Act, 1983.)

> "That serious discussions be undertaken immediately between the appropriate government departments, farmers, agricultural organizations and other interested parties towards establishing suitable accident and disease prevention programs in this industry."
>
> (Public and special meetings were held as recommended and suggestions incorporated into the Farm Safety Program.)
>
> "That government give priority to the establishment and accreditation of training and qualifications for those who practice in the field of occupational health and safety."
>
> (The division has continued to support the Occupational Health Nursing Certificate Program at Grant MacEwan College, and its expansion to Calgary and other Alberta Centres. A Chair in Occupational Medicine at the University of Alberta has been created with part funding from the division. Formalizing the curriculum of the University of Alberta Extension Certificate Program in Occupational Safety was also funded by the division. Physicians in the Medical Services Branch have assisted the medical schools in expanding the amount of occupational medicine in their curricula.)
>
> "That information systems on hazardous chemicals within the province should be pooled, and that the Occupational Health and Safety Division should act as the clearing house to whom questions regarding chemicals at use in the workplace can be referred for answer."
>
> (The division has responded by establishing the Chemical Hazards Information Program and providing access to several computerized data bases on chemicals and chemical hazards. Both of these systems may be accessed by workers, employers and other interested persons.)

Following the precedent of 1979, the Special Select Committee, appointed in 1983, formally included in its terms of reference the examination of occupational health and safety issues in addition to those of workers' compensation. Again, through public hearings across the province, the review of submissions and the examination of programs provided by governments and organizations across Canada, the committee submitted its recommendations to the Alberta Legislature in May, 1984.

DIVISION PRIORITIES

Every organization has to have priorities for deployment of its resources; the Occupational Health and Safety Division is no exception. As a public service, there are certain situations to which the division must respond. These "reactive" priorities take precedence over anything else that is done.

In order of priority, these are:

1. Response to imminent danger situations.
2. Investigation of fatal and selected serious accidents.
3. Response to requests for assistance, or complaints related to hazardous situations or perceived hazards.

When fatal or serious accidents occur at any work site under our jurisdiction, a team of specialists from the division thoroughly investigate the causes and circumstances surrounding the incident. The outcome of the investigations can provide invaluable information, and aid in preventing further unfortunate occurrences of a similar nature. The investigation reports are reviewed by an internal Significant Incident Review Board (SIRB) which makes recommendations regarding the adequacy of the investigation and further action. The SIRB is comprised of the executive directors and selected branch directors of the division.

The Occupational Health and Safety Division has also identified a number of hazards which have had a history as major causes of serious injury or death in Alberta.
A proactive approach in the form of preventive inspection, advisory and education programs has been focussed on:

(a) cave-ins of trenches and excavations, and

(b) preventing contact with energized overhead power lines.

Future programs are planned for the following, (as time and resources permit):

(c) falls from heights,

(d) pinch points,

(e) chemical asphyxiants such as hydrogen sulfide and carbon monoxide,

(f) confined space entry, and

(g) manual materials handling.

COOPERATION WITH INDUSTRY

1. Petroleum Industry Steering Committee - SAGE Report

In late 1979, the division commissioned a study of safety in the oilwell drilling industry. Early in 1980, the Sage Institute's report, "Safety in the Oilfields" was released, and as a result, working parties comprising government and industry representatives were established to deal with its recommendations. Committees were established in three areas (Policy and Procedures, Training and Familiarization and Work Site Committees) and division personnel were represented on all committees. Final reports of the committees were submitted.

A great deal of activity has taken place and progress has been made by the various associations involved in the industry (Canadian Association of Oilwell Drilling Contractors, Canadian Petroleum Association, Independent Petroleum Association of Canada, Oilfield Contractors Association, Canadian Heavy Haulers Association) in implementing various recommendations of the Sage Report.

Division staff met with the industry at the end of 1982 to assess progress.

2. Safe Operating Procedures

The division continues to work closely with representatives of labour and management in the development of Safe Operating Procedures in a variety of areas. The program is being expanded to provide more site and operation specific safety practices. At the same time, restrictive regulations are being reduced in favour of performance standards which allow flexibility in the achievement of a safe work environment.

Safe Operating Procedure's developed to date are:

- Procedures for Seismic Drilling
- Code of Practice for Handling Sulphur
- Procedures for Pumping Services
- Safe Logging Practices
- Rat Hole Drilling Procedures
- Construction Traffic Controllers' Handbook
- Guidelines for Crane & Lifting Equipment Log Books
- Tilt-up Construction Safety

- Procedures for Operation and Maintenance of Earthwork Equipment (non-swing type)
- Guidelines for Health and Safety Committees in Construction
- Procedures for the Operation and Maintenance of Earthwork Equipment (swing-type)
- Procedures for the Operation and Maintenance of Mobile Cranes & Hoists.

3. International Labour Organization

Since its creation in 1919, the International Labour Organization in Geneva has been the focus of international activities in occupational health and safety issues, especially through the adoption of international standards in the form of Conventions and Recommendations to serve as guidelines for nations to put policies into action.

Canada, as one of the Ten States of Chief Industrial Importance, is a member of the ILO Governing Body.

International Conventions and Recommendations are adopted by the ILO at its annual conference through a two stage discussion process. In 1981 the ILO adopted the Convention on Occupational Safety and Health following discussions in 1980 and 1981. Canada's tripartite delegation comprised representatives at the federal and provincial levels. The division's Executive Director of Research and Education Services represented the provincial governments.

4. How can Industry become more Involved with Government Programs?

The Occupational Health and Safety Division and both industry and labour have interacted in a number of ways:

- Industry is represented on the Occupational Health and Safety Council appointed in accordance with the Act.
- Industry may at any time present briefs to the government or to the Minister.
- Industry can invite Occupational Health and Safety Division staff to participate at their workshops and meetings.
- Division staff can be invited to meetings of Occupational Health and Safety Committees.
- Participation with respective Industrial Safety Councils promotes liaison between this division and those councils.
- Task forces and committees set up to develop guidelines, procedures and codes of practice can bring industry and government closer together.

- A Public Information Committee has been established to interact with the division and advise on communication matters.
- Involvement in joint educational and training projects is a valuable medium for interaction.
- It is appreciated when the division receives feedback from its public notices of proposed legislation. The division's publication "Occupational Health and Safety" carries advertisements and articles on proposed amendments to the legislation. This publication with a circulation of 65,000 appears six times each year and is sent to every employer having a Workers' Compensation Board Account.
- Feedback is also invited through the submission of articles and items for the magazine.

LEGISLATION

THE OCCUPATIONAL HEALTH AND SAFETY ACT

The Occupational Health and Safety Act is a statement of the government's philosphy concerning the protection and promotion of workers' health and safety. The Act specifies the expectations placed upon and responsibilities of workers, employers and others so that occupational health and safety in Alberta is not left to chance. To further define the government's expectations with respect to basic standards that must be observed, regulations have also been established under the authority of the Act.

The division subscribes to the philosophy that the ultimate and direct responsibility for occupational health and safety rests with employers and workers.

Employers must do everything reasonable within their power to protect the health and safety of their workers. (Section 2(1))

Workers also must take reasonable care of themselves and their fellow workers and cooperate with the employer's efforts. (Section 2(2))

Others less directly involved on the work site also have responsibilities. Suppliers of tools, equipment, or any other job materials must ensure the materials are in safe operating condition, and principal contractors must do everything they reasonably can to ensure that workers and employers are acting in compliance with the government's regulations, at all work sites within their jurisdiction.

A major part of an occupational health and safety officer's duties involves regular inspection of work sites to ensure compliance with legislated health and safety standards. Although the officer works closely with employers to identify and control hazardous situations, an officer may issue a Compliance Order or where necessary a Stop Work Order.

Under the Act, any person who receives an order may appeal to the **Occupational Health and Safety Council.** The Council is an impartial tribunal made up of representatives from the public sector, labour and management.

When a serious accident or injury, as defined by the regulations, does occur, the Act specifies that the employer responsible for the work site must notify a Director of Inspection. The employer must then carry out his own investigation of the circumstances surrounding the accident. The employer must ensure that the accident scene is disturbed as little as possible. The officer investigating must be given full access to the site and any materials relating to the incident.

Medical examinations may also be needed in the investigation of work site injuries and illness. Any physician, nurse or first aid attendant who assists an injured worker may be required to furnish any reports needed by the division.

On work sites where there are increased occupational risks, the employer may be required to inspect the work site on a regular basis.

Because work site safety is a shared responsibility, the Act authorizes the Minister to order the creation of a joint work site health and safety committee at a designated work site.

This committee equally represents both workers and employers and can identify hazards, recommend improvements, and set up educational programs. The committee meets during working hours and members cannot be penalized for participating.

The Government of Alberta encourages the formation of joint worker-employer committees or related forms of worker participation on a voluntary basis. This is based on the principle that if both parties want and agree on the arrangement, then it is most likely to be effective.

Employers must ensure that workers are aware of their duties and responsibilities, as required by the legislation.

Employers may also be required to establish codes of practice. These codes give practical guidance to the regulations and health and safety practices applicable to the work site, and must be readily accessible to workers.

Workers have a responsibility to ensure their own safety. The Act states that a worker should not carry out any job, nor use any piece of equipment which places himself or other workers in imminent danger.

Disciplinary action cannot be taken against a worker for complying with this, or any other section of the Act. Complaints of disciplinary action are investigated and an officer may order that such action cease, and that a worker be re-instated and restitution paid, where these are appropriate.

An Act cannot be effective without teeth, and non-compliance with an order made under the Act is a serious offence.

CHANGES TO THE STATUTES

From April 1st, 1979 through to March 31st, 1984 there have been a number of changes to legislation administered by the Occupational Health and Safety Division. These changes can be divided into two groups: changes to the statutes and changes to the regulations. Both groups of changes are described in this document in the sequence in which they occurred.

Table One compares the legislation administered by the division as of April 1st, 1979 with that administered five years later on March 31st, 1984.

Since the original Occupational Health and Safety Act was proclaimed in 1976, it has been amended four times. There were two sets of minor amendments in 1979; an administrative amendment in 1981, and a major set of amendments in 1983.

1. "The Workers' Health, Safety and Compensation Statutes Amendment Act, 1979"

   The first amendment to the Act was made via Bill #17 (1979). This amendment added a new provision establishing grants for OHS research and education programs. This provision came into effect on the date it received Royal Assent, July 4th, 1979.

2. "Occupational Health and Safety Amendment Act, 1979"

   The second amendment to the Act was also made in 1979 via Bill #71. Some provisions of this Amendment Act were proclaimed into effect on April 1st, 1981. There were a number of changes to the definitions (Section 1); clarification of the responsibilities of suppliers and principal contractors (Section 2); a new provision addressing storage and handling of substances or materials (Section 9.1); as well as a number of additional word changes which improved the quality and clarified the intent of the original statute.

   The unproclaimed provisions of the second 1979 Amendment Act will (a) establish a new Section 19.1 addressing qualifications of miners; (b) change references to the the Quarries Regulations Act, the Coal Conservation Act, and the Coal Mine Safety Act to references to the Occupational Health and Safety Act in a number of Alberta statutes; and (c) repeal the Quarries Regulations Act and the Coal Mine Safety Act. These provisions will be proclaimed once the developing "Mine Safety Regulation" has been approved as a new regulation under the Occupational Health and Safety Act. This will complete one of the major recommendations

TABLE ONE

COMPARISON OF LEGISLATION ADMINISTERED BY THE OCCUPATIONAL HEALTH AND SAFETY DIVISION IN EFFECT ON APRIL 1st, 1979 AND ON MARCH 31st, 1984

LEGISLATION IN EFFECT ON APRIL 1st, 1979	LEGISLATION IN EFFECT ON MARCH 31st, 1984(a)
1) **Occupational Health and Safety Act**	1) **Occupational Health and Safety Act**
Construction Safety Regulations (AR 271/76) Designation of Occupations Regulations (AR 288/76) Explosives Safety Regulations (AR 272/76) First Aid Regulations (AR 266/76) General Accident Prevention Regulations (AR 267/76) Grain Safety Regulation (Safety Regulations covering Grain Elevators, Grain Annexes, Flour Mills, Feed Mills, Seed Mills and Seed Cleaning Plants; AR 268/76) Joint Work Site Health & Safety Committee Regulations and Min.'s Designation Orders (ARs 197/77, 218/77, 306/77 and 91/78) Lumbering Safety Regulations (AR 269/76) Petroleum and Natural Gas Safety Regulations (AR 270/76)	Asbestos Regulation (AR 7/82) Chemical Hazards Regulation (AR 8/82, amended by AR 242/83) Designation of Hazardous Materials Regulation (AR 387/81) Designation of Occupations Regulations (AR 288/76) Designation of Serious Injury and Accident Regulation (AR 298/81, amended by AR 440/81) Coal Dust Regulation (AR 243/83) Explosives Safety Regulations (AR 272/76, amended by AR 299/81) First Aid Regulation, 1981 (AR 299/81, amended by AR 85/82) General Safety Regulation (AR 448/83) Joint Work Site Health & Safety Committee Regulations and Minister's Designation Orders (ARs 197/77, 218/77, 306/77 and 91/78) Noise Regulation (AR 314/81, amended by AR 439/81) Occupational Health and Safety Grants Regulation (AR 374/81) Silica Regulation (AR 9/82) Vinyl Chloride Monomer Regulation (AR 10/82)
2) Regulations under the **Public Health Act**	2) Regulations under the **Public Health Act**
Fibrosis of the Lungs, Regulations Respecting the Protection of Persons from (AR 375/71) Lead and Lead Compounds, Regulations Respecting the Protection of Workers from the Hazards of (AR 3/72) Noise, Regulations Respecting the Protection of Workers from the Effects of (AR 30/71) Notification of Industrial Diseases, Regs. Respecting the (AR 62/70) Occupational Health, Regulations Respecting (AR 298/72)	None
3) **Coal Mine Safety Act**	3) **Coal Mine Safety Act**
Coal Mine Safety Regulation (AR 333/75)	Coal Mines Safety Regulation (AR 333/75)
4) **Quarries Regulation Act**	4) **Quarries Regulation Act**
General Regulation (AR 38/57)	General Regulation (AR 38/57)
5) **Radiation Protection Act**	5) **Radiation Protection Act**
General Regulation (AR 181/72) Laser Operation Regulation, Protection from (AR 45/73)	General Regulation (AR 181/72) Laser Operation Regulation, Protection from (AR 45/73)
6) **Radiological Technicians Act**	6) **Radiological Technicians Act**
Industrial Radiological Technicians Regulation (AR 51/70)	Industrial Radiological Technicians Regulation (AR 51/70)

NOTE: (a) Since April 1st, 1984 there have been a number of changes to the legislation which have not been included on this table. The only exception is the "General Safety Regulation", which was approved by Cabinet in December of 1983, but did not come into effect until September 1st, 1984. The other changes which have taken place since April 1st, 1984 will be described in the Annual Report being prepared for the fiscal year April 1st, 1984 to March 31st, 1985.

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of the Gale Commission (1975) regarding consolidation of all Alberta legislation which addresses occupational health and safety.

3. "Revised Statutes of Alberta 1980 Act"

   On January 1st, 1982 the Revised Statutes of Alberta 1980 Act was proclaimed. This statute amended most Alberta legislation, including the Occupational Health and Safety Act. The changes resulting from this Amendment Act were primarily administrative in nature, resulting in reorganization and renumbering of certain sections and some minor word changes. No substantive change to the Act was made as a result of this third amendment.

4. "Occupational Health and Safety Amendment Act, 1983"

   The fourth and most significant set of changes to the Act were produced via Bill #51 (1983) on June 6th, 1983.

   The proclaimed amendments were primarily directed towards ensuring the provisions of the Coal Mine Safety Act and the Quarries Regulations Act could become new regulations under the Occupational Health and Safety Act. Amendments also allowed employers to propose acceptable alternatives to certain requirements of the regulations, which will provide a basis for flexibility in compliance and will compliment the use of the generic performance regulations. Amendments also provided guidance to both employers and workers with respect to refusal of perceived unsafe work assignments.

   These changes to the Act and those in the new safety regulations reduced the need for many detailed requlations through the introduction of Codes of Practice. Amendments to the Act also clarifed such items as: (a) confidentiality of medical records; (b) early notification of new industrial projects; (c) worker awareness of their duties and responsibilities; and (d) rationalization of the reporting system for serious injuries and accidents.

   Two sections of this Amendment Act were not proclaimed when the original Act received Royal Assent. The two unproclaimed provisions address new project notification (Section 10.1) and written health and safety policies (Section 25.1). These sections will be proclaimed when the necessary regulations and support documents have been prepared.

THE RADIOLOGICAL TECHNICIANS ACT

Since the original Radiological Technician's Act was proclaimed in 1972, it has been amended twice: once as a result of the Revised Statutes of Alberta 1980 Amendments; the other as a consequence of the 1983 amendments to the Health Occupations (Disciplines) Act. The latter, when it is proclaimed, will result in the removal of provisions dealing with medical radiological technicians from the Act and transfer them to the authority of the Health Occupations (Disciplines) Act.

REGULATIONS DEVELOPMENT

During the past five years, a number of major innovations have taken place both to the content of regulations and to the process by which regulations are developed. Based upon answers to a set of fundamental questions, both existing and proposed regulations have been critically evaluated, applying the division's regulation development policies, so that a more realistic set of regulatory instruments are developed than previously existed in Alberta.

The following are the major components of the division's regulation improvement program.

1. Evaluation of the Need for the Regulation

   An evaluation of the need for a new regulation is undertaken, before the regulation development process commences. In particular, the need for a regulation requires the evaluation of the alternatives and supplements to regulation to ensure the objectives of OHS are achieved at Alberta workplaces.

2. Elimination of Unnecessary Forms of Government Intervention

   A proposed regulation should be developed in such a way that benefits and protection for workers can be achieved or maintained without the need for direct government intervention (or at least with less intervention than has occurred in the past).

3. Focus on the Problem, rather than on the Location

   The regulations should focus on the problem requiring the regulation, rather than on the location of the problem. New regulations should not create a series of parallel or duplicate legal requirements directed to a number of specific industries or locations, but should concern themselves with the problem regardless of where it might manifest itself.

4. Use of "Performance Regulations"

Many of the older regulations which specify exactly how something must be done are being replaced with performance regulations, provisions of which state an objective to be achieved without specifying exactly how that objective should be achieved. The adoption of more performance regulations and the consequential reduction in the number of prescriptive regulations should promote the "internal responsibility system".

5. Use of Non-government Standards

There will continue to be an increase in the reference to non-government standards within the new health and safety regulations, in particular the codes of the Canadian Standards Association. The use of these consensus standards provides a basis for achieving an acceptable, minimum level of safety in Alberta workplaces without the development of detailed government regulations.

6. Separation of Informational Needs from Legal Requirements

The informational needs of industry and labour should be separated from the need to establish their minimum legal requirements, and these two objectives should not be confused within the regulations. The basic objectives of occupational health and safety can be set out in the legislation, but the law should not become a detailed "how-to-do-it" manual, nor a "self-help guide" to safer and disease-free work places. The division is committed to the production of information pamphlets and explanatory guidelines, as well as promoting the development of codes of practice and safe operating procedures by industry and labour.

7. Clarification and Assignment of Responsibilities

Clarification of responsibility for achieving and ensuring a regulatory standard begins with a proper analysis of which party is ultimately or most responsible. Is it a problem caused by workers not taking proper precautions? Or is the employer responsible for not controlling or eliminating the hazard? Is an effort required by both employers and workers to control the problem? The responsibilities of workers and employers must be clearly identified otherwise the legislation will be difficult or impossible to enforce.

8. Public Review of Proposed Regulations

Before a proposed regulation is submitted to the Minister or Cabinet for approval, the widest feasible consultation occurs with those directly affected by the regulation. Sufficient time will be allocated for public review of a proposed regulation, following publication of a notice in the "Occupational Health and Safety" magazine. The means will also be provided to ensure that the public can comment on a proposed regulation in an efficient and effective manner.

9. Implementation of Approved Regulations

   There will be an implementation period of a duration that ensures industry and labour will receive sufficient notification regarding when a new regulation will come into effect. Explanatory pamphlets, guidelines, and other informational documents and education programs should be available as soon as practical following the effective date of a regulation to promote the objectives of the regulation and assist in compliance.

CHANGES TO THE OCCUPATIONAL HEALTH AND SAFETY REGULATIONS

When the original Occupational Health and Safety Act was proclaimed in 1976, a number of regulations were transferred to this Act from the Workmens' Compensation Act. In addition, the division began administering a number of regulations under the Public Health Act and from other provincial statutes. Since the late 1970s, there have been a number of major changes in the status of these regulations. For the purposes of this review for the 1979-84 period, the titles of the major regulations (ie. not administrative or minor amendment regulations), their effective dates, and the regulations they amended or repealed (if any) are listed below.

Title of Regulation (reference number)

Designation of Serious Injury (and Accident) Regulation (AR 298/81). Effective August 20th, 1981.

First Aid Regulation, 1981 (AR 299/81). Effective August 20th, 1981.

- Repealed the First Aid Regulations (AR 266/76) and various sections of four of the 1976 safety regulations.

Noise Regulation (AR 314/81). Effective August 27th, 1981.

- Repealed the Provincial Board of Health Regulations Respecting the Protection of Workers from the Effects of Noise (AR 30/71).

Occupational Health and Safety Grants Regulation (AR 374/81). Effective October 14th, 1981.

Designation of Hazardous Materials Regulation (AR 387/81). Effective October 28th, 1981.

Asbestos Regulation (AR 7/82). Effective March 1st, 1982.

Chemical Hazards Regulation (AR 8/82). Effective March 1st, 1982.

- Repealed the Provincial Board of Health Regulations Respecting Occupational Health (AR 298/72).

Silica Regulation (AR 9/82). Effective March 1st, 1982.

- Amended Sections 25-1-1 and 25-1-2 of the Provincial Board of Health Regulations Respecting the Protection of Persons from Fibrosis of the Lungs (AR 375/71).

Vinyl Chloride Monomer Regulation (AR 10/82). Effective March 1st, 1982.

- Repealed the Provincial Board of Health Regulations Respecting the Notification of Industrial Disease (AR 62/70).

Coal Dust Regulation (AR 243/83). Effective July 7th, 1983.

- Repealed the Provincial Board of Health Regulations Respecting the Protection of Persons from Fibrosis of the Lungs (AR 375/71).

General Safety Regulation (AR 448/83). Effective September 1st, 1984.

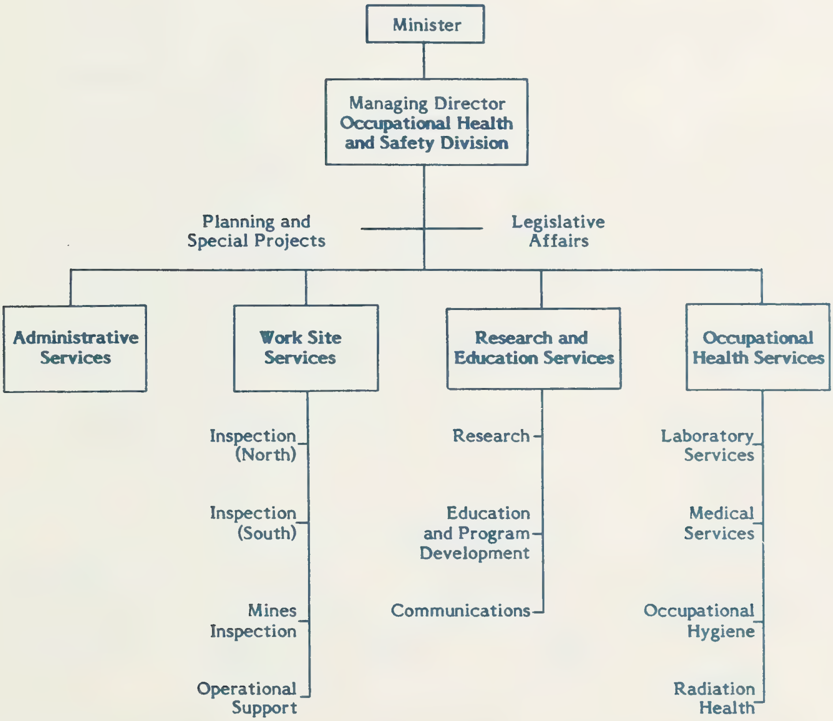
- Repealed the Construction Safety Regulations (AR 271/76); the General Accident Prevention Regulations (AR 267/76); the Grain Safety Regulation (Safety Regulations covering Grain Elevators, Grain Annexes, Flour Mills, Feed Mills, Seed Mills and Seed Cleaning Plants) (AR 268/76); the Lumbering Safety Regulations (AR 269/76); and the Petroleum and Natural Gas Safety Regulations (AR 270/76).

NOTE:

Since April 1st, 1984 there have been further changes to the regulations which have not been noted above. The only exception is the "General Safety Regulation", which was approved by Cabinet in December of 1983, but did not come into effect until September 1st, 1984. The other changes which have taken place since April 1st, 1984 will be described in the Annual Review being prepared for the fiscal year April 1st, 1984 to March 31st, 1985.

SERVICES OF THE DIVISION

The division is structured into three program delivery services supported by a centralized administrative service, as shown in the figure below.



WORK SITE SERVICES

The purpose of this part of the division is to provide a work site focus to prevent work related accidents and ill health through:

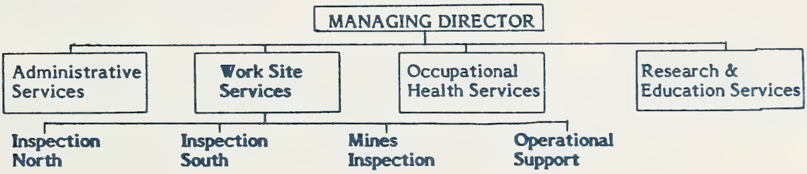
- inspection
- consultation and advice
- investigation of complaints and serious incidents
- development of safety standards and regulations
- enforcement

To accomplish this purpose Work Site Services has four branches:

- Inspection North
- Inspection South
- Mines Inspection
- Operational Support

In 1984 the staff numbered 101 consisting of:

- occupational health and safety officers (OHSO's)
- a variety of engineering specialists
- a legislative and sanctions consultant
- data analysts
- a staff training specialist
- clerical support



Ongoing Service-wide Activities

A number of the major activities of Work Site Services, from April, 1979 to March, 1984, are summarized in Table 2. Other ongoing activities are described below.

TABLE TWO

ACTIVITY SUMMARY	1979/80	1980/81	1981/82	1982/83	1983/84
Safety Inspection Conducted	15,973	13,899	16,466	21,756	25,269
Orders Citing Regulation Contravention	6,682	6,440	8,974	10,815	9,947
Stop Work Orders Issued	141	138	161	113	99
Fatal Accidents Investigated	71	74	78	56	42
Joint Committee Contacts	470	300	303	119	208
Complaints Responded to	792	649	746	640	712
Incidents Investigated	458	505	514	523	640
Review of Plans & Specifications	137	--	190	364	385
Prosecutions Commenced	17	6	27	96	69
Convictions (Not all prosecutions were concluded)	12	10	14	37	64
Total Fines Imposed	$ 18,725	$ 10,050	$ 12,015	$ 38,025	$ 78,945

Significant Incident Review Board (SIRB)

The Executive Director of Work Site Services is the Administrator of SIRB, which consists of senior staff of the three services. The purpose of the Board is to conduct an internal review of investigations conducted by the Occupational Health & Safety Division into significant incidents, including, but not restricted to:

- incidents involving the death of a worker from an occupational injury or illness
- incidents involving injuries to, or illness of, several workers
- incidents involving major explosions, collapses of structures or inrush of water
- incidents of major public interest
- incidents referred by the Managing Director or Minister.

The Board may review all information relating to the circumstances, causes, manner and other matters of the incident; corrective measures; measures proposed for the prevention of similar incidents; the completeness and standard of the investigation; and the adherence to the division policies and procedures respecting the conduct of investigations. The Board makes such recommendations as it deems necessary. Action recommendations or review summations are forwarded to other governmental jurisdictions as appropriate, including the Chief Medical Examiner, the Attorney General and the Workers' Compensation Board. Other results of the SIRB recommendations include development of industry wide procedures relating to various areas, the development of safety promotion and review of regulations.

Information on Fatalities

A central filing and record system is maintained on all fatal investigations. Monthly summary information is distributed, along with trend and comparative data. The recent development of a fatality investigation data base will assist in providing expanded statistical data.

Safe Work Procedures

The service continues to work closely with representatives of labour and management in the development of Safe Work Procedures in a variety of areas. The program is being expanded to provide more site and operation-specific safety practices. At the same time, restrictive regulations are being reduced in favour of performance standards which allow flexibility in the achievement of a safe work environment.

New Regulation and Small Business

With the implementation of the new General Safety Regulation, Work Site Services has expanded its programs to assist small businesses in developing an awareness of their responsibilities. Procedures implemented are as follows:

i) Development and printing of instructive pamphlets aimed at explaining the new regulation and its impact on various industry segments.

ii) Operating procedures for field staff on first contacts with employers will be:

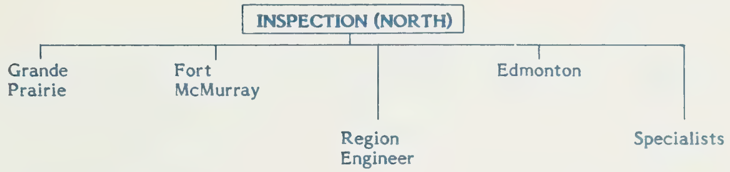
  - on a "by appointment" basis;
  - emphasize the educational aspects particularly in bringing the new regulation to the attention of the employer; and
  - not involve the issuance of orders except where the detection of hazardous situations makes it absolutely necessary.

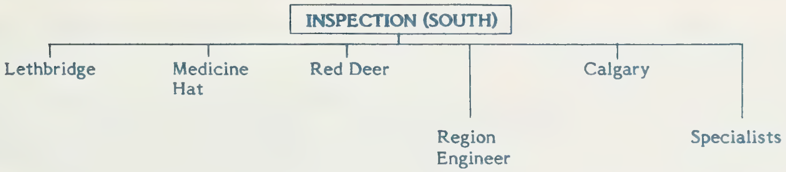
iii) Major training program to familiarize staff with the new regulation to enable them to better explain the regulation to small business.

iv) Stop work orders will not be issued in situations where a work site is in contravention of the new regulation but meets the requirements of the previous regulation. In such a situation the employer will be given a reasonable period of time to comply with the new regulation.

Inspection Branch (North) - Inspection Branch (South)

The Inspection Branches provide a program of inspection, enforcement and related activities to help protect workers from work site hazards.





The two Inspection Branches provide service to industries and occupations through a regional organization, as follows:

Inspection Branch (North) - The branch is responsible for the geographic area covering the northern portion of the province, from the N.W.T. to a line running east and west through Ponoka;

Inspection Branch (South) - The branch is responsible for the geographic area covering the southern portion of the province, from the U.S. border to a line running east and west through Ponoka.

Inspections

Inspections were conducted by Occupational Health & Safety Officers at non-mining work sites throughout the province. These work sites were selected and priorized on the basis of previous accident rates, size and degree of hazard. Technical engineering inspections were also conducted as required at identified work sites.

Pre-project Meetings

Meetings were held prior to commencement of major demolition, construction, trenching and pipeline projects to review applicable regulations, and to address concerns of government and industry related to specific site problems.

Investigations

All fatal accidents occurring at work sites were investigated and detailed reports were provided outlining the circumstances, causes and preventive measures. Incidents which resulted in serious injury or had potential for serious injury were also investigated.

Review of Plans

Plans, drawings, specifications and safe work procedures were reviewed by the region engineers. Pre-project planning meetings were held at major demolition, construction, trenching and pipeline projects. In addition, region engineers worked closely with the Operational Support Branch (Engineering Services), and with the New Plants Coordinator (Occupational Hygiene Branch) on projects over $100 million.

Response to Complaints

All complaints regarding occupational health and safety conditions were investigated by the Inspection Branches. Complaints relating to work site situations which had the potential for causing fatal or serious injury and disciplinary action complaints were investigated immediately.

Prosecutions

Special prosecution programs were undertaken for contravention of trenching and excavating regulations, overhead powerline clearance regulations and floor and roof opening regulations.

Legislation

Inspection Branches provided input into amendments to the Occupational Health and Safety Act and regulations, and participated in the development of guidelines for codes of practice. The branches also supported the Canadian Standards Association by providing members on various technical committees.

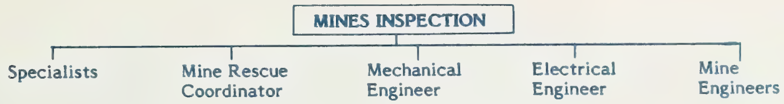
Information, Advice and Assistance

During their work site visits, officers of the Inspection Branches provided assistance to the designated joint work site health & safety committees as well as to other voluntary safety committees, advised on hazardous work related situations and interpreted the OHS Act and regulations.

Support was given to industrial safety councils and related safety associations.

Mines Inspection Branch

The Mines Inspection Branch provides a program of inspection, enforcement and related activities to help protect workers from work site hazards in the mining, quarrying and tunneling industries.



Inspections

Both engineers and specialists conducted planned inspections of mines and quarries.

Investigations and Response to Complaints

Investigations were conducted for most of the reported incidents in cooperation with the experts from the various branches of the division.

Response to complaints received high priority.

Prosecutions

Items of non-compliance discovered during the inspections and incident investigations were reviewed and appropriate sanctions imposed, ranging from placing an order to have the items corrected within a specified time period to the stopping of work processes until rendered safe or initiating court action for the infraction.

Legislation

A good portion of branch resources were committed to the development of regulations pertaining to mining, explosives and general safety. The branch also participated in the development of standards and codes through its membership in various committees of Canadian Standards Association, intergovernmental initiatives and tri-partite groups established to develop safe work procedures within the province. Guidelines for the development of Codes of Practice which will be required under the proposed Alberta Mine Safety Regulation are being further reviewed as a result of the recent input from industry and the Energy Resources Conservation Board.

Information and Advice

Technical information was provided to the industry and other interested parties on a continuing basis, particularly in the areas of interpretation of the regulations and their specific requirements, new technology associated with the industry and also preventive information.

Examination & Certification of Miners

The Examination and Certification Program continued to be administered by the branch. Significant improvement has been achieved in the areas of examination development and maintenance of the program. There are 27 separate certificates issued through the program that require the setting and marking of 45 separate examinations.

Review of Plans

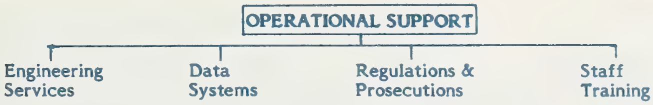
The branch completed comprehensive reviews of all new mines, quarries and tunnelling projects. The review included classification of specific plant areas according to established "hazard criteria" and examination of the suitability of the equipment proposed.

Mine Rescue Training

The branch had an active role in mine rescue through development of training seminars; provision of administrative and funding assistance to mine rescue competition; development, publication and distribution of handbook literature; and participation in the National Mine Rescue Association.

Operational Support Branch

The Operational Support Branch provides specialist staff support to Work Site Services.



Information Systems

An extensive Work Site Services information system was developed in 1983 to provide "activity" information on work sites throughout the province in the areas of inspection, regulatory violations, investigation, accident information as well as division staff activity such as consultations, attendance at meetings, etc. A variety of comprehensive reports were produced which provided for a program of planned inspections throughout the province, manpower planning and also general information relating to employers.

Information systems were used to identify program problems and opportunities and to develop new programs and solutions to problems.

Identification of trends and potential problems is on-going. It can prompt a redirection in such areas as staff training, inspection targeting, regulations development, engineering inspection requirements, etc.

An improved system of inspection reporting and data collection is being developed and should be finalized for delivery early in 1985.

Staff Training

A major training program was provided to Work Site Services personnel in the following areas:

Basic Training on Regulations & Procedures
Standard First Aid
Effective Writing
Emergency Survival
Courtroom Orientation
Use of Hygiene Field Kits
Defensive Driving
Use, Storage and Handling of Explosives

Respiratory Protection
Oil Sands Technology
Metal Manufacturing Processes
Underground Survival

Prosecutions

While prosecution is a relatively ineffective method of obtaining compliance with safety regulations, being extremely time consuming, a sharply focused prosecution program can supplement consultative and educational programs. Approximately 100 prosecutions were recommended annually aimed at:

- highly negligent incidents which have led to death or injury;
- repetitive violations of the same regulation; or
- life threatening situations such as unsafe trenching, power line contacts or confined space entry.

Engineering Services

Staff provided engineering support, investigation and/or review on accidents, general inspections, inspections of specific processes/ procedures, and non-standard equipment, and on engineering practices in the province.

Staff consultants provided assistence to the field staff in the review of Codes of Practice submitted to the division.

Additionally, staff were involved in the development of Safe Work Procedures for use at work sites, and the development and production of Technical Data Sheets to aid field officers in their inspection activity.

Major Projects within Work Site Services

In addition to these ongoing activities, Work Site Services undertook a number of major projects over the past five years.

Materials and Equipment Handling Committee

As a result of an accident involving the death of a pedestrian in 1980, a committee (with representation from both provincial and municipal governments, and the construction industry) was established to:

i) review public safety aspects of materials and equipment handling during construction and demolition operations;

ii) review existing and propose new legislation; and

iii) develop proposals for amendment and improvement.

The committee presented its final report in October 1981 and recommended several changes to pedestrian and vehicular traffic control which were adopted by municipalities.

Construction Safety Task Force

In September 1980, a five-man Task Force, under the chairmanship of Dr. Gordon Kenneth Wynn, LLD, BSc. (arch), FRAIC, was appointed to review the matter of safety in the Alberta construction industry, with the two main objectives being to:

- study the investigation report on the collapse of the Roy Plaza Building in Lethbridge on July 3, 1980 and to determine what steps should be taken by government, employers, workers and involved professionals to prevent recurrence of similar incidents on other projects, and
- identify the safety problems currently prevailing in the construction of multi-storey commercial buildings in urban centres and corrective action that should be taken by the above parties.

During the course of the review, hearings were held in major centres in the province and selected members of the Task Force travelled to Ontario to review construction safety in Ontario.

The construction Safety Task Force Report - Part I was presented to the Minister in December 1980 and Part II in June 1981. Working Parties consisting of representatives from various associations, organizations and government departments were established to:

- examine the Task Force recommendations;

- determine their feasibility;
- develop alternative strategies if applicable, and
- develop programs to implement strategies.

Coal Mines Safety Board of Inquiry

On April 30, 1980 Mr. H. G. Stephenson, P.Eng., was appointed to act as a one-man board of inquiry into the safety of underground coal mining operations in Alberta. His terms of reference included preparing a report to advise the Minister with respect to:

- the probable cause of the accident in the Reiff Terrace Mine at Grande Cache on February 28, 1980 in which four workers were killed;
- the prevention of similar mining accidents; and
- the general safety of underground coal mining operations in Alberta.

The final report of the Commissioner was presented in December 1981. In May of 1982, at the invitation of the Minister, a meeting of senior government and industry representatives was held at Government House to:

- provide an opportunity for the Commissioner to outline the inquiry procedures, findings and recommendations; and
- provide a forum in which attendees could discuss the recommendations (their feasibility and implementation).

As a result of this meeting a Steering Committee was established, consisting of representatives of:

- organized labour;
- industry; and
- a government coordinator

to review the recommendations in detail and to establish other committees, as necessary, to work on special projects associated with the recommendation of the Commissioner. Final Reports were submitted in late October 1982.

Trenching and Excavating Program

In late 1980, the trenching industry was informed by letter that actions would by taken by Occupational Health and Safety Officers who observed failures to provide shoring or cutback to trenches and excavations. Public notices appeared in newspapers throughout the province emphasizing the course of action to be taken by inspectors. Inspectors were directed to:

- immediately stop all work until corrective action is completed;
- recommend prosecution under the Occupational Health and Safety Act.

The bases for the program were the continuing violations relating to trenching and excavating activity and the statistics related to fatalities where cave-ins occurred.

> Nineteen fatalities were noted during a five-year period (1976-80) in comparison to just two fatalities in the period following (1981-84).
>
> Since the program commenced, there have been 81 successful prosecutions resulting in total fines of $ 90,755.

OCCUPATIONAL HEALTH SERVICES

The purpose of this service area is to prevent work related ill health and disability and to promote occupational health through:

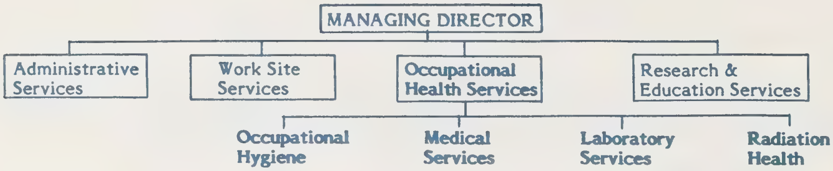
- inspection
- occupational hygiene, medical, and radiation protection consultation and advice
- review of plant design
- investigation of complaints and serious incidents
- setting health standards and regulations
- enforcement
- medical surveillance
- epidemiological and other research
- laboratory analysis
- a variety of innovative, preventive programs

To accomplish this purpose Occupational Health Services has four branches:

- Occupational Hygiene
- Medical Services
- Laboratory Services
- Radiation Health

In 1984 permanent staff numbered 69 consisting of:

- occupational hygienists and hygiene technologists
- toxicologists
- ventilation engineers
- physicians
- occupational health nurses
- an audiologist
- an epidemiologist
- laboratory scientists and technicians
- health physicists & radiation health officers
- clerical support



In addition to ongoing and specific activities within the four branches, the service has undertaken a variety of major projects over the past five years.

Occupational Health Services took a lead role in organizing and hosting an interdepartmental Risk Assessment Seminar which was jointly sponsored by the Alberta Environment Centre in February 1982. Over 50 representatives of 10 Alberta Government departments and agencies and six federal and other provincial agencies attended.

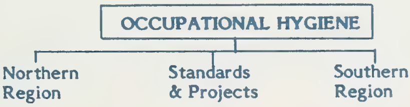
In conjunction with Social Services & Community Health, the service hosted the Federal/Provincial Advisory Committee on Environmental and Occupational Health in Jasper, Alberta, in April 1983. This meeting included a joint conference with the Health Unit Association of Alberta on research methods in environmental health.

The Executive Director of Occupational Health Services undertook extensive planning and organizing responsibilities as General Congress Chairman for the Eleventh International MEDICHEM Congress on Occupational Health in the Chemical Industry in September 1983. One hundred and sixty-two delegates and 40 accompanying persons, representing 20 countries, attended the Congress.

The executive director and other service staff provided a great deal of input and support for government response teams at the ERCB Lodgepole Inquiry and in the development of the Human Health component of the Acid Deposition Research Program.

Occupational Hygiene Branch

The Occupational Hygiene Branch helps to protect workers from health hazards associated with their work environment. To achieve this, a wide range of strategies are employed ranging from reactive response to proactive leadership. During this five year period the branch continued to be a focus of occupational hygiene expertise while encouraging developments that were occurring in the private sector. Staffing remained constant, especially during the last three years, after considerable growth during the previous five years. This was complemented by significant expansion of resources externally including company hygienists, consultants and post secondary training programs.



Investigations

This "reactive" oriented program responded to requests for technical and professional expertise in the recognition and evaluation of occupational health hazards. The requests originated with managers, workers, unions, Joint Work Site Health & Safety Committees, physicians, and others. Additional investigations resulted from referrals by the field officers of the other branches who observed a potential hazard at a work site or who had been asked for help or advice by a person at the work site. Further investigations resulted from complaints brought to the attention of branch staff.

A wide variety of hazards associated with work environments and work practices were evaluated. Evaluation techniques combined engineering and scientific expertise. Often the investigation required laboratory support in the analysis of samples of environmental contaminants or biological specimens. Once the nature and magnitude of a hazard was identified, its control had to be sought. With no growth in field staff it became apparent that the branch could not respond to all of the continually increasing number of requests for field investigations of work sites. To maximize the impact of available resources, work sites were encouraged to participate in the solution of their own problems as much as they were able. Thus, many enquiries, which in previous years would have involved a field visit, were handled by telephone or correspondence, providing information and advice. The number of investigations peaked in 1980-1981 to 1071 with a five year average of 935.

Additional field activities addressed industry wide or hazard specific problems. All of the major coal mines were visited to evaluate coal dust levels. Some 423 junior and senior high schools were investigated in cooperation with Alberta Education. Hearing conservation programs, particularly in smaller industries, were instituted in cooperation with the Medical Services Branch audiologist, resulting in 221 companies employing over 20,000 workers adopting formal programs. Work sites having sprayed on asbestos insulation submitted over 2500 samples for analysis in order to develop their own control programs.

During this five year period the vast majority of work sites voluntarily took corrective action to control health hazards. Of the few remaining, orders were issued and compliance achieved in all cases.

Chemical Hazards Information

Information on the hazards of industrial chemicals and trade name products continued to be of considerable concern during this period, since a multitude of chemicals of unknown composition are used at work sites. Labelling of these chemicals is often inadequate and health and safety precautions were the exception rather than the rule.

Prior to 1980-81, the branch tried to accumulate toxicological and health and safety information on trade name products. With a shortage of resources, the effort which could be devoted to this task was minimal and the information could not be accessed directly by work site personnel.

In 1981-82 two full time staff members were assigned a formalized program established to help employers meet their obligations under Section 24 of the Act and provide information to work site personnel, health professionals and division staff. Demand for services from the Chemical Hazards Information Program has been strong since the inception of the program. Requests for information on trade name products have increased ten-fold and currently exceed 1000 requests per year. Demand for other services, including extensive literature searches and hazard summaries have increased similarly.

Two explanatory publications "Chemical Information at the Work Site" and "Chemical Hazards Information Program" provide guidelines for employers on information required to be provided at work sites and outline the services provided by the program.

Advisory, Consultative and Educational Services

With more emphasis on work site involvement in the recognition, evaluation and control of occupational health hazards, branch advisory services were in heavy demand to assist the work site effort. The branch responded by providing over five man years per year of technical and professional support. Although problems with all aspects of occupational hygiene were addressed, control of airborne contaminants by industrial ventilation systems was the topic most discussed. Over 4300 plans were reviewed with consultants to ensure conformance with the Act and regulations.

New Plants Program

With Alberta's increase in industrial development, primarily in resource based industries, the division recognized the need to assure adequate controls for worker health and safety as part of the design of these plants and decided that special emphasis was necessary. The "New Plants Program - Occupational Hygiene" was developed by the Occupational Hygiene Branch to support this division approach. In 1980-81, the program approach was formalized and a full time coordinator recruited. Major new plants (ie. plants exceeding $100 million capital cost, and selected high hazard plants) are included in the program.

The program objective is to ensure that potential health hazards are identified before they are built into the plant or process and adequate control measures put in place, thus preventing illness and disease that might otherwise have been associated with working in the new plant. This approach also provides the maximum opportunity to use engineering controls to limit worker exposure to health hazards, and avoids application of less effective, more disruptive and more expensive retrofit hygiene engineering controls following plant start-up.

The New Plants Program is based upon a performance standard rather than specification standard approach. Thus, the process by which the company achieves the desired end is not regulated, but rather, the degree of worker protection actually achieved is evaluated. In this way, the company has freedom to design hygiene controls and programs to suit the plant physically and organizationally. Engineering controls will be given priority, control approaches will be based on thorough consideration of the health hazards, and control measures and programs will adequately control those hazards. The program also ensures the establishment of a Work Site Internal Responsibility System for continued effectiveness of controls.

Currently the program monitors the planning for approximately 50 projects. Twelve major projects have undergone in-depth review.

Work Site Internal Responsibility System

Historically, the branch has been involved in several programs aimed at ongoing, routine monitoring of a number of companies to determine whether control systems and work practices were sufficient to adequately protect the health of workers. These programs have often included the use of biomonitoring techniques and have centred on lead, mercury, pentachlorophenol and MOCA.

For plants which are complex, or which have the potential for ongoing health hazards, the branch recognized the need for a systematic approach to auditing company performance. This coincided with the shift to performance regulations and with branch efforts at streamlining field activities. Responsibility for routine monitoring was transferred back to the companies involved as part of company-based

Internal Responsibility Systems; thus branch time spent in repetitive work site monitoring was reduced.

In 1982-83, work began on identifying critical components in an effective company approach to ensuring worker health, and on formalizing the Work Site Internal Responsibility System approach to auditing company performance. Components of a WIRS include a corporate statement of policy respecting health and safety, systems for hazard identification, priorization and evaluation, planned approaches to health hazard control and a means of ensuring continued effectiveness of controls.

WIRS activities concentrated on the conversion of companies with historical biological and environmental surveillance programs to a WIRS approach. These were done jointly with Medical Services Branch.

Development of Regulations and Standards

The program of occupational health regulations development that started in 1978 was completed in 1984. During this period, all health-oriented regulations were promulgated under the Occupational Health and Safety Act and all previous regulations under the Public Health Act were repealed. The development process included extensive public review and comment in addition to the 1980 Red Deer Conference on Regulation Review.

The process of annual review of Occupational Exposure Limits, with biannual regulated update was instituted. Also, in 1984, the Chemical Hazards and Asbestos Regulations were identified as requiring amendment and the public review process initiated.

The branch also contributed substantially to development of other division regulations and to the Federal-Provincial-Industry-Labour project for developing a Canada-wide consensus on proposed regulations respecting chemical labelling (Work Site Hazardous Materials Information System).

Projects

A number of activities were undertaken by the branch which fell into the "project" category by virtue of their planned nature and defined time frame.

Knowledge shared by other health professionals, references in the technical literature, problems recently experienced in Alberta or elsewhere, statistical data, or a specific request may indicate the need for a research project to deal with specific hazards, kin of worker, or industry group. Often the solution to the hazard(s) can be found by working with the whole industry; comparing one plant with another, one process with another and one control with another. The information gathered can then be shared for the benefit of all and without the barrier of competitive economics. These projects usually result in the publication of a report, set of recommendations or the like.

Limitations on staff and resources restricted the number of projects which could be undertaken. Whenever possible, industry, professional associations and academia were encouraged to undertake the research.

In the period 1979 - 1984, projects were conducted to identify or evaluate health hazards in particular industries (Ferrous Foundries; Schools; Commercial Testing Laboratories; Oil Well Servicing) as well as particular health hazards associated with specific work processes (Sprayed-on Asbestos Surfaces in Schools and other Public Buildings; Asbestos and Silica in the Insulation Trade; Silica Exposure to Road Graders; MOCA Exposure in Polyurethane Production; H_2S and SO_2 in Sulphur-Extended Asphalt Spreaders; Formaldehyde and SO_2 during UFFI Stripping; Contaminants Arising from Laser Cutting; Anaesthetic gases in Dental Surgeries; Quality of Compressed Breathing Air).

Some projects were more organizational in nature. Competency Analysis Profiles were developed for Occupational Hygienists and Occupational Hygiene Technologists. The first annual conference for the Canadian Occupational Health Association and a Risk Assessment Seminar for Alberta Government departments were successfully organized.

Toxicology

A thorough understanding of how a particular chemical may affect humans is a fundamental requirement for the practice of occupational hygiene. The Inhalation Toxicology Program was established in 1981. In cooperation with the Department of Environment, major program emphasis has been placed on establishing a fully functional inhalation toxicology laboratory at the Alberta Environmental Centre, Vegreville, and undertaking applied research. In view of the concern over adverse health effects of hydrogen sulfide (H_2S) in Alberta industry, the first inhalation projects have been focused on this contaminant.

Within the branch, toxicological expertise was provided in the review of Occupational Exposure Limits in the Chemical Hazards Regulation and in the response to a wide variety of requests for information. Support was also provided to other government departments, particularly with reference to a major sour gas well blowout and community concerns over potential industrial pollutants in particular areas of the province.

Promotional Activities

Branch staff were involved in many activities related to the promotion of occupational hygiene and occupational health and safety. These included the delivery of lectures and participation in short courses, workshops and training sessions. Staff were also active on divisional, interdepartmental and intergovernmental committees and working parties, and took leadership roles in professional societies and associations.

The development of occupational health and safety programs in Alberta educational institutions was actively promoted through interaction with the institutions and with Alberta Advanced Education.

Lack of awareness of potential health hazards and appropriate measures to control worker exposure resulted in a large proportion of branch resources required to provide advice and consultation.

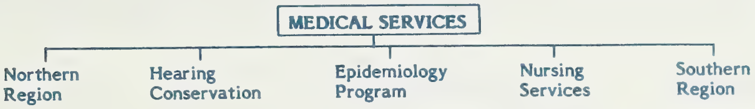
Several publications were prepared by the branch to maximize the extent to which information can be transmitted. Branch publications have been extemely well received, with some being requested from international sources. Publications may take the form of detailed information in booklet form, or highlighted brief overviews in pamphlets. Topics included: Health and Safety in Printmaking, a Manual for Printmakers; Design Criteria for the Control of Health Hazards in Schools; Control of Fibre Release from Sprayed on Asbestos Containing Surfaces; Chemical Information at the Work Site; Chemical Hazards Information Program; Drycleaners Beware - Perchloroethylene can Cause Health Problems; Chemical Hazards and Custodial Workers; Ammonia at the Work Site; Chlorine at the Work Site; Respiratory Protection - An Employer's Guide, as well as explanation of the Chemical Hazards and Noise Regulations.

In some cases, a bulletin on guidelines for particular work processes was prepared. Guidelines for Electroplating; Ammonia in Ice Arenas and Chlorine and Other Chlorination Chemicals used in Swimming Pools have all received wide distribution.

Major technical reports, though infrequently undertaken, have contributed to the scientific information base. "In Vitro Genotoxicity Tests: Current State of Affairs" and "The Impact of the Twelve Hour Shift on Petrochemical Process Operators" both addressed areas with little published information.

Medical Services Branch

The Medical Services Branch provides education, promotion, advice, consultation and investigation in the area of occupational medicine.



Education and Promotion

In recent years, the Medical Services Branch has contributed significantly to the promotion and development of occupational medicine and occupational health nursing in Alberta. Branch nursing staff were pioneers in the development of a training program in occupational health for nurses at Grant MacEwan College. This nursing program has attained national recognition and is training nurses who are eagerly sought after by industries in the province. The availability of these specially trained nurses encourages many companies to expand and improve their occupational health programs. Similarly, branch physicians have played a major role in increasing the occupational medicine content in the medical school curricula at the Universities of Calgary and Alberta. The importance of occupational medicine education and its potential benefit to workers, was recently recognized by the creation of a Chair in Occupational Medicine at the University of Alberta. Branch staff continue their involvement in these various educational programs as consultants and advisors, and occasionally as lecturers.

Consultation and Advice

Companies which do not have trained occupational health staff depend on the day-to-day consulting and advisory role given by branch staff. As industries, physicians, nurses and workers became more aware and more concerned about occupational health problems, the demand for consultation and advice increased and continues to do so. The Medical Services Branch also provides consultation to other parts of the division - on the medical aspects of serious accidents and fatalities being investigated by Work Site Services, on projects undertaken by Research & Education Services, and on projects undertaken by the Occupational Hygiene and Radiation Health Branches.

Hearing Conservation

Noise is a common hazard in Alberta workplaces. The branch has developed and implemented a Hearing Conservation Program through which a large number of audiometric technicians have been trained.

The program has also increased the monitoring of worker exposure by employers, and has increased worker awareness of noise as a hazard. Workers are now more convinced of the value of hearing protection and are using it. The branch audiologist has consulted to the Environmental Council of Alberta and has participated on a Federal/Provincial Committee developing codes of practice for Noise Exposure and Hearing Conservation. He played a lead role in the development of recommendations for audiometry.

Investigations

A number of major health investigations were conducted. These included an Investigation of Brucellosis in a Meat Packing Plant, a Review of Occupational Histories in Medical Records, an Evaluation of the Fibrosis Program, a Survey of Sandblasters, a Survey of Radiator Shop Workers, a Survey of Hearing Levels in Alberta Youth, a Survey of Confidentiality of Occupational Health Records in Industry and Survey of Alcoholism Programs in Industry.

The evaluation of the Fibrosis Program identified that there was poor compliance with the Silica, Coal and Asbestos regulations by employers. As a result of this evaluation, the program has been computerized to allow more efficient monitoring of the program and to facilitate a cost-benefit analysis. Moreover, the evaluation has indicated that occupational lung disease from exposure to these dusts is not a significant problem in Alberta.

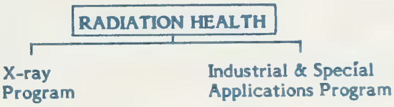
The Radiator Shop Survey identified a group of small employers who lacked the resources to evaluate potential hazard from lead in their workplace. Workers did show biological evidence of lead toxicity. Workers and employers were advised about the need for improved emphasis on protective measures and recommendations were made for improved surveillance of this problem. The results of the survey in Alberta and recommendations will be presented at the International Conference on Biological Monitoring of Exposure to Metals, convened by the American Chemical Society.

A particularly noteworthy study was the Investigation of Brucellosis in a Meat Packing Plant in Lethbridge. This study led to the development of guidelines to protect workers which were implemented by Canada Packers not only in Alberta but nationally. Since the investigation, no cases of infection have been reported at the slaughterhouses.

The Medical Services Branch will continue to be involved in education, promotion, advisory and consulting activities. A major objective for the future will be to encourage and guide employers to develop their own internal occupational health programs. Another major objective will be to expand branch activity in epidemiologic investigations. This activity can be very productive in identifying and documenting the effect of health hazards and/or the effectiveness of protective measures, and assist in identifying priorities for the branch and for the division.

Radiation Health Branch

The Radiation Health Branch helps to prevent injury and ill health in workers and the public resulting from exposure to ionizing (x-rays and gamma rays) and non-ionizing (lasers, microwaves, radiofrequency and ultraviolet light) radiation.



There have been a number of significant events during the period 1979 to 1984 which have resulted in changes in the structure and the programs of the Radiation Health Branch.

The work of the branch commenced in 1960, with the formal adoption of duties by the government under the Atomic Energy Control Act. This formal inspection role altered, with the opening of a Western Region office of the Atomic Energy Control Board (AECB) in Calgary during September 1981 and resulted in fewer field visits to radioisotope premises. The transition was accompanied by a formal Memorandum of Understanding between the division and the AECB, to ensure that duplication of visits would not occur, and that the efforts of the two agencies would be coordinated.

The branch broadened its scope of interest to include non-ionizing radiations in 1970 and gradually the demands for services increased during the subsequent decade. In November of 1979 a non-ionizing radiation specialist was added to the staff. He raised the branch capabilities to deal with microwave radiation, and then laser, ultraviolet light, electromagnetic and radiofrequency radiations were included.

In April 1983, two separate groups were established - the Medical X-ray Program, to deal with medical and dental x-ray uses, and the Industrial and Special Applications Program to cover non-ionizing radiations and industrial uses of x-rays.

To maintain a statutory basis for the work of the branch with its changing program emphasis, a review of the Radiation Protection Act and regulations commenced in 1983. This resulted in a proposal for a new statute to cover non-ionizing radiation, including ultrasound, as well as medical and dental x-rays already dealt with in the 1970 Radiation Protection Act.

In 1981/82 concerns were first expressed by users, unions and owners about video display terminals. All enquiries were answered and this resulted in a large number of surveys during the period. No radiation hazards were identified and no statutory action was deemed necessary.

Details of major involvements of the Radiation Health Branch from 1979 to 1984 are shown in Table 3.

TABLE THREE

	1979/80	1980/81	1981/82	1982/83	1983/84
Radioisotope surveys (1)	205	216	198	131	14
Non-ionizing radiation surveys (2)	68	72	49	42	235
X-ray certificates of registration (3)	161	340	271	251	309
Medical & Dental x-ray surveys (4)	294	549	358	382	573
X-ray survey directives & yield (5)	257(.87)	479(.87)	380(1.06)	262(.69)	244(.49)
X-ray survey recommendations & yield (6)	274(.93)	673(1.23)	461(1.29)	533(1.4)	860(1.5)

Notes:

1. Trend shows decrease in radioisotope services because of inspections carried out by Atomic Energy Control Board, especially since the end of 1981 after the opening of their Calgary office.

2. Trend shows increase in services required for non-ionizing radiation sources.

3. General economic trend may be reflected here, with a gradual increase in new medical and dental x-ray facilities from 1967 until 1980/81, and then two years with fewer new installations, and then an increase again in 1983/84.

4. The number of surveys is largely dependent on the number of new facilities registered, but the 1983/84 total includes 273 special surveys of dental x-ray units.

5. Directives result from the identification of items which are in violation of the regulations. The gradual decrease in yield of directives per inspection shows the improvement in x-ray facilities as old equipment is replaced and as owners become more aware of good radiation practices.

6. Recommendations usually are items which do not require statutory action, but will improve the x-ray films and reduce patient exposure. Most of them relate to the processing of x-rays.

Laboratory Services Branch

The Laboratory Services Branch provides the Occupational Health & Safety Division with analytical services in support of field activities. Laboratory results on samples collected in the workplace provide a basis for 1) identification of harmful airborne substances; 2) evaluation of worker exposure; and 3) determination of the effectiveness of engineering controls designed to reduce or eliminate the hazard. The branch provides training in laboratory methods, offers advice on sample collection and quality assurance procedures to industry and private sector laboratories.

Analysis

The laboratory performed a wide variety of analytical tests employing the most modern equipment and techniques. Instrumental methods included the use of gas-liquid chromatography, high performance liquid chromatography, mass spectrometry, atomic absorption, anodic stripping voltammetry, multichannel gamma spectroscopy, infrared visible and ultraviolet spectrometry, x-ray diffraction and laser nephelometry. New methods were continually researched, developed and optimized to the highest level of sensitivity, accuracy and precision of measurements of chemical hazards present in the workplace.

Laboratory Accreditation and Quality Control

The Laboratory Services Branch was the first Canadian industrial hygiene laboratory to receive accreditation by the American Industrial Hygiene Association (AIHA). Periodic site visits were made by AIHA accreditation members to ensure continued accreditation status. A three-year extension of the laboratory's accreditation was granted after the site visit conducted in September, 1983.

The quality of test data produced by the laboratory was controlled by adherence to a quality assurance plan specified in a quality control manual. A quality control coordinator was responsible for the planning, training, implementation and coordination of all aspects of the quality control program. In addition to an internal quality control program, the laboratory was active in various proficiency testing programs conducted by recognized international agencies such as the National Institute for Occupational Safety and Health (NIOSH).

Privatization of Analytical Services

The laboratory was active in training and assisting private sector laboratories to develop proficiency in a number of analytical techniques in support of privatization of industrial hygiene laboratory services.

Workshops and informal training seminars were offered to stimulate private sector involvement in servicing routine analytical needs of occupational health programs and to reduce industry dependence on government services.

Development of Specialized Analytical Techniques

In the past year the Laboratory Services Branch has developed specialized methods to detect, identify and quantify toxic substances present in minute concentrations in complex chemical mixtures. Such measurements have been made possible by the use of specialized techniques on modern instrumentation recently acquired by the laboratory. The analysis of airborne polycyclic aromatic hydrocarbons (PAH's), suspected carcinogens occurring in a variety of industrial processes, was developed by employing high resolution capillary chromatography mass spectrometry analysis. Methods have also been developed to quantify hazardous trace elements such as chromium, nickel and cadmium in air, blood or urine samples at sub ppb concentrations using the heated graphite furnace atomic absorption technique.

Methods have been put into place for monitoring the quality of compressed breathing air used by workers in Alberta. This analysis includes the measurement of carbon monoxide, carbon dioxide, oxides of nitrogen, oxygen content, oil mist, hydrocarbons and moisture. The measurement of the above constituents is designed to ensure that breathing air supplied in Alberta meets the standards of breathing air quality set by the Canadian Standards Association.

RESEARCH AND EDUCATION SERVICES

The purpose of this service is to promote occupational health and safety through:

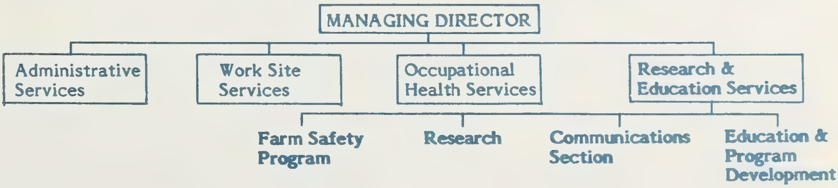
- education
- research, data and consultation
- public and media relations
- publications

To accomplish this purpose the service has three branches:

- Education & Program Development
- Research
- Communications
- Farm Safety Program (transferred to Alberta Agriculture April 1, 1983)

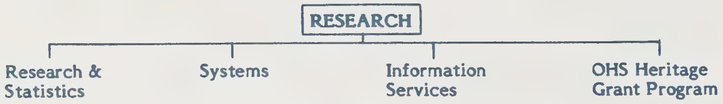
In 1984 the staff numbered 43 consisting of:

- researchers
- statisticians
- systems specialists
- applied social scientists
- educators
- information specialists
- clerical support



Research Branch

The Research Branch sponsors and carries out research and statistical studies, provides systems, data processing, word processing, information and library services and administers the Occupational Health and Safety Heritage Grant Program.



Research and Statistics Section

This section serves the occupational health and safety community by providing statistical information, advice on research design and methods, assistance in data analysis, reviews of occupational health and safety research and original statistical and research studies. The number of requests for information, advice or assistance handled by the section increased from approximately 150 in 1979 to over 550 in 1984. Approximately half of these requests originated from sources outside the division.

The section also worked to upgrade occupational health and safety data sources in Alberta. In cooperation with the Mines Inspection Branch and the Alberta Mines Safety Association, a pilot system to record detailed statistical information on mine accidents and serious occurrences has been developed. A special study on the health and safety concerns of Alberta firefighters was completed and recommendations on ways to enhance existing data on firefighters' work-related injuries and illnesses were provided to firefighting agencies.

To assist division staff in identifying significant areas requiring accident prevention programs, a computerized fatal accident data base was developed. In addition to its usefulness in identifying statistical relationships and trends, the data base has provided an efficient means for answering questions about fatality investigations.

The reports produced by the section have covered a variety of occupational health and safety issues. Statistical reviews of Workers' Compensation claims in major industries, such as construction, oil and gas, coal mining and logging, were completed along with critical reviews of the literature on the correlates of back injuries, back injury prevention strategies, services to employers with small numbers of workers, first aid treatment and training, behavioural safety programs and theories of accident causation.

The staff also carried out several program evaluation studies. Among these were studies which examined joint work site health and safety committees, safety council accident frequency reporting, the readership of the division's information magazine, the comprehensive inspection of meat packing plants, and the usefulness of the data base link with the Canadian Centre for Occupational Health and Safety.

In the past few years, the section has played an increasing role in supporting management staff in short and long term planning through the preparation of economic, employment and claims trend analyses.

A major study to identify research priorities in the occupational health and safety field was carried out with input from division staff, labour and employer representatives. The report was made public and provides a guide for proposals for funding.

Systems and Data Processing Group

This group has experienced a sharp increase in the demand for its services over the past five years, reflecting the developing information needs of division staff and their awareness of available data processing services. Major projects have included the development and enhancement of systems to produce operational and management information based on Workers' Compensation Board claims, regulations citations, inspection and educational activities, the fibrosis program (which tracks medical and radiological information on workers), and other tracking systems for research personnel, inventory and financial information. The Group has also been responsible for coordinating the introduction of additional computer and centralized word processing equipment to the division.

Information Services

Information Services have developed to meet the sharply rising demand for information on occupational health and safety from division staff, industry and the public. Along with the increased volume, the complexity of information requests has increased.

The Occupational Health and Safety Library's collection has grown into one of the major Canadian collections. In addition to the main library in Edmonton, branch libraries in Edmonton and Calgary serve the growing demands of regional division staff and the public.

The Film Service and its collection have also grown into one of the major audio-visual resources in Canada. Alberta employers can borrow the materials free of charge to assist them in their educational and safety awareness programs. Over 4,000 film loans are made each year. In cooperation with Alberta Education, the Film Service makes available a selection of materials to the vocational and industrial arts programs.

In 1982, the Minister responsible for Workers' Health, Safety and Compensation signed an agreement to formally link the main library by computer to the Canadian Centre for Occupational Health & Safety in Hamilton. This computer link provided on-line access to the International Safety and Health Information Centre (CIS) data bank in Geneva. Since 1982 the Canadian Centre has provided additional access to other data bases, including NIOSHTIC, CIOL and INFODOC.

All of these were searched free of charge to the public and selected documentation was also provided. A tripartite committee assisted in the dissemination of information from these data bases and as well acted as a public information committee to assist the division identifying and meeting industry's information needs.

Information Services has also developed access to several other important data bases, including HAZARDLINE, TOXLINE and MEDLINE, for divisional staff to assist them in meeting their own growing program requirements.

Since its creation, Information Services has developed strong contacts with other Canadian jurisdictions and interest groups as well as with other countries, thus greatly strengthening the capability of the division to respond to a wide range of inquiries.

A newspaper clipping service was developed in 1980 which provides staff and selected other persons with daily information on events and issues on occupational health and safety reported in the local and national press. As awareness of this facility has grown in industry, companies and researchers have accessed the back files of clippings to examine media coverage of accidents and other health and safety topics.

The Library staff have held open house presentations on several occasions to better acquaint industry and professional groups with its range of services. Special presentations for the chemical, construction, oil and gas industries and for small business employers have been held.

Occupational Health and Safety Heritage Grant Program

The OHS Heritage Grant Program, a $10 million investment of the Alberta Heritage Savings Trust Fund (Capital Projects Division), was established in April of 1981, as an eight year program under the auspices of the Minister responsible for Workers' Health, Safety & Compensation. The Grant Program, which was designed to complement services of the Occupational Health & Safety Division, encourages the participation of employer and worker organizations, educational institutions, researchers and other private sector groups in responding to health and safety concerns. Awards from this program ensure that a variety of innovative projects including both short and long term activities, will be directed toward the prevention of work-related accidents and ill health.

The OHS Heritage Grant Program supports research, training and education activities which seek to prevent accidents and ill health resulting from employment, and to promote the health and well-being of Alberta workers through improved working conditions.

To meet these objectives, the Grant Program offers awards in three major categories: research, education and conference. In the research area, the Grant Program supports scientific activities designed to (a) increase understanding of occupational health and safety problems; and (b) to develop and assess new strategies and approaches to address these problems. Funding in the education category sponsors the development and evaluation of new and innovative educational programs, and the training of individuals in areas which emphasize the recognition, avoidance and control of hazards related to work. For the conference area, funds are used to assist organizations in planning workshops or conferences which focus on issues related to health and safety on the job.

The program is administered through the Research Branch. The program officially commenced in April 1981, and a full staff complement of three was achieved in March 1982. The staff employed through the Grant Program include a program administrator, research officer and secretary.

An interdepartmental steering committee is responsible for making recommendations on project funding to the Minister through the Managing Director of the Occupational Health and Safety Division. The Minister is responsible for final approval of all projects.

Formal terms of reference for the steering committee were established early in 1981. Committee membership includes three senior representatives from the Occupational Health and Safety Division and one senior representative from each of six other provincial government departments and agencies. In the remaining four years of the program, the steering committee will include representatives of industry and labour.

During the first year, emphasis was placed on the development of funding guidelines and administrative procedures in order to ensure that appropriate criteria were used to assess proposals, and that relevant background information was provided to members of the steering committee. During the second and third year of program operation, most effort was devoted to the formal review of grant applications and the administration of approved projects.

A total of 188 grant applications have been submitted to the Grant Program. Sixty-nine applications have been approved for funding.

Formal critical reviews, carried out by specialists in appropriate subject areas, were obtained for each application. In addition to the formal reviews, division research staff also reviewed and provided critical comments on each proposal.

Some of the projects funded during the first three years of the program have been completed, and many are nearing completion. Grant program staff follow through all completed projects in order to assess the final results and the potential benefits of the work. In the immediate future, emphasis will be placed on the review and publication of project reports and results. Copies of all completed reports will be available through the Occupational Health and Safety Division Library.

In 1983 an examination of research priorities was undertaken by the Research Branch to identify areas for internal and grant funded research. Two research priorities identified for the Grant Program are:

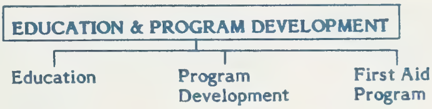
1. To determine which prevention strategies are most effective in reducing job-related accidents and illnesses in high risk situations.

2. To assess the known and potential hazards associated with current and future work procedures and technologies in high risk situations.

While these research areas were judged to be of highest priority at this time, research proposals which address other occupational health and safety issues are also eligible for funding consideration.

Education and Program Development Branch

The Education & Program Development Branch develops and conducts programs to train and educate employers and workers in the awareness and adoption of safe and healthful work practices and in first aid. The branch also provides resources to assist employers' and workers' organizations, safety councils, associations, educational institutions and training consultants, in developing occupational health and safety training, education and promotion.



EDUCATION SECTION

Courses and Seminars

Basic Accident Control for Supervisors is a popular program offered by the education staff. This 15 hour course uses planned exercises and discussions to show that accidents are symptomatic of various supervisory problems. It clearly demonstrates the need for supervisors and foremen to understand their positions, their responsibilities, for planning and organizing work, directing workers and integrating health and safety within the work situation. The branch has held 260 supervisory courses attended by over 5,000 supervisors from most industrial sectors.

A three hour course which provides proper planning and testing techniques to avoid the hazards of entry into confined spaces has been offered to 2,000 workers. The course also provides information on safe access for workers and safe exit for the rescue of those who are overcome by toxic gases or lack of oxygen.

The dangers of hydrogen sulphide are well know in Alberta, particularly in the oil and gas industry. The branch has been assisting the Canadian Association of Oilwell Drilling Contractors (CAODC) with industrial safety training for a number of years. Originally first aid training was the focus for the training delivered on the rigs. During the past few years with the greater awareness of the danger of H_2S, CAODC has pioneered the development of the H_2S Life Saving Procedures, Awareness, and Alert Programs. In 1979 this training was accepted by the Oilfield Contractors as the industry standard for training in H_2S.

The need for H_2S training was underscored by the Lodgepole Blowout as well as by other industry pressures to have all personnel trained in H_2S that work in the field. Over 6,000 workers have been trained under these programs, supplemented by over 3,300 trained by the branch.

Other courses available from the staff include guarding and lock out procedures, materials handling, trenching safe practices, instruction techniques, fork lift safety, safety coordinator training, chains and slings, lifting and the prevention of back injuries, health and safety committees, anatomy of an accident and accident investigation.

Following the passing of major amendments to the Occupational Health and Safety Act in 1983, staff presented a series of seminars across the province to provide employers and workers with information on the scope and effect of the amendments and a better understanding of the overall legislation.

Seminars and workshops were conducted to meet special needs within industry. The concerns were carefully researched with representatives of the industry together with staff specialists and delivered by various techniques such as problem solving, case studies and simulations. Concerns and programs have ranged from the prevention of falls during roofing operations, to the handling of asbestos during demolition and to the avoidance of high voltage power lines during truck movements.

Consultative Programs

Staff have provided consultation to companies interested in improving their health and safety experience. Such consultations ranged from general advice on developing and improving company safety programs to detailed assistance and recommendations to company management after evaluating the company's accident experience and costs, work procedures, downgrading incidents, supervisory control, etc. About 100 consultations per year were requested, several of which involved detailed evaluations.

Committees

To encourage the growth and development of joint employer-worker health and safety committees, education officers have contacted those committees established by order of the Minister and provided assistance where needed. When requested, staff have also provided guidance and training to newly formed committees and have encouraged employers to form joint committees during their formal and informal contacts. While there was some initial success in the manufacturing sectors, new strategies had to be developed for the construction and drilling industries. In cooperation with the Canadian Association of Oilwell Drilling Contractors a successful alternative program of joint rig committees has been set up for the drilling rigs' crews. Further activities were undertaken to extend the program to the service rigs. A code of practice for joint committees in the construction industry was developed with the employers' and workers' organizations.

Expositions

To promote occupational health and safety the branch organized expositions at Bonnyville and Grande Prairie. At each location there was a full day of indoor and outdoor demonstrations and exhibits, film presentations, workshops on health and safety in construction, forestry, drilling and farming, and presentations on explosive actuated tools, workers' compensation and the prevention of back injuries. Many of the exhibits and demonstrations were presented by local industries. The branch also participated in other local trade and industrial fairs at Fort Saskatchewan, Medicine Hat and Lacombe. Staff have also participated in and assisted the Alberta Trucking Association at the annual truck roadeos.

Industrial Safety Councils

There are 19 industrial safety associations/councils representing approximately 600 companies at 2,500 work sites from a wide variety of industrial sectors. Each of the councils is a voluntary organization whose aim is to promote occupational health and safety through the sharing of experiences, ideas and programs. Councils function through regular meetings held up to five times per year. The meeting format varies but usually involves discussion of recent accident experiences, innovations and changes in company health and safety policies, and, for some councils, inspections by the council of a host's work site.

Education officers were an effective liaison between the councils and the division, and provided the councils with information, claims, statistics, and assistance on safety and health programs. Over the last 5 years the branch also sponsored over 700 awards to member companies of the councils who had recorded no lost time accidents in any year.

The Alberta Association of Industrial Safety Councils (AAISC), consisting of the chair persons of each council, provides a central focus for health and safety. Through its executive planning and coordination, its conferences and its regular interaction with the division, AAISC provides an effective collective voice on occupational health and safety for a significant proportion of industry. The education officers are ex-officio, non-voting members of the AAISC.

PROGRAM DEVELOPMENT SECTION

The Program Development Section undertook programs to assist educational sectors and industrial and labour organizations in developing and delivering courses and seminars.

Post Secondary

The section has been very active in encouraging and involving the various post secondary educational institutions in developing and delivering courses and seminars. Supervisory level courses have been developed in conjunction with institutional staff and delivered at NAIT, SAIT, and the colleges at Lethbridge, Medicine Hat, Red Deer, Grande Prarie, Olds and Fort McMurray (Keyano). Safety coordinator and management courses have been delivered by NAIT, pulmonary function testing courses at NAIT and SAIT; and seminars on "Fitness for Work" and "Science, Regulations and the Politics of Cancer" at the University of Alberta Extension Department. The staff have prepared materials and conducted seminars and workshops in cooperation with the University of Alberta departments of Early Childhood Education, Industrial Arts and Vocational Education and assisted the Yellowhead Consortium in developing coal mine training materials.

Secondary

The promotion of occupational health and safety among senior high school students prior to entry into the workforce has been considered important in view of the noted high accident rates among young and inexperienced workers. Short "awareness of hazards" talks and demonstrations have been prepared and presented to high school students, usually during their last term. To further extend the opportunities of presenting these programs in more schools, staff have participated in professional development days and discussions have been held with the Alberta School Trustees Association about the development of in-school safety programs.

An important and significant step in this regard was the project to involve a school district in participating in health and safety activities. During 1979-81, the branch, along with several other provincial agencies initiated a safety education project which was piloted in the County of St. Paul. The aim of the project was to "increase student knowledge and influence the development of positive safety attitudes and behaviour". The project tested the feasibility of integrating safety into the general curriculum, the usefulness of existing safety resources from different agencies and a diagnostic approach to health education based on an assessment of student's skill, knowledge, attitudes and values. Seven safety units, one topic for each grade from early childhood services to grade six, were designed by elementary teachers under the coordination of a consultant.

The project provided a model for other school jurisdictions who are interested in developing local curriculum, safety policies and procedures and educational programs.

Industrial and Vocational Arts

A number of presentations have been made to industrial arts students at high schools and vocational centres, and in the trade programs at NAIT, SAIT and the Lethbridge, Olds, Red Deer, Medicine Hat, Grande Prairie and Lakeland Colleges.

Industrial Organizations

One of the principal roles of the branch has been to provide assistance to employer and labour organizations in planning and developing educational and training programs for their members. Staff have provided guidance in the setting of educational objectives and course content and in the design of evaluative criteria. Some of the major activities in this area have included assistance to:

- the Housing and Urban Development Association in developing programs for small-sized residential building contractors;
- the Alberta Roofing Contractors Association seminars involving a review of accident statistics in roofing, causes of accidents, regulations, safe job procedures, using and cleaning tankers and the use of perimeter warning lines;
- the Alberta Roadbuilders Association in the design of a seminar on off-road articulated vehicle safety;
- the Alberta Roadbuilders Association in the development of safe work procedures for paving crews;
- the Canadian Association of Oilwell Drilling Contractors in the design of seminars on rig inspections, regulations, breathing apparatus, training the new employee, handling drug and alcohol problems and firefighting;
- the Oilfield Contractors Association was provided assistance in the design of training modules;
- the Alberta Construction Association was assisted in the design of training modules and in producing a safe procedures booklet on tilt-up construction methods;
- the Calgary General Contractors Association and scaffold companies in the development of a seminar on swingstages and scaffolds;
- the Alberta Federation of Labour in the design of a program to train safety instructors and safety representatives;
- the Carpenters and Joiners Local 1325 in conducting training modules;
- the Construction and General Workers Union Local 1111 in delivering general safety programs.

Workers at Risk

Statistics show that the age group from 17 to 25 years suffer proportionately the highest number of industrial accidents. Many of these young workers have received little or no formal training to help them avoid accidents and are not aware of how their personal attitudes, values and life styles contribute to risks and hazards in their workplace.

In cooperation with ACCESS division staff promoted and assisted in the production of a series of motivational films entitled "Workers At Risk". This series of six, 13 minute films, produced by the Douglas Film Group, focusses on attitudes, risks, lifestyles, influences, hazards, protection, and the responsibilities and roles of workers. Each of these issues is presented, examined and discussed as docudramas which portray cause and effect relationships of accidents and behaviour. The films have been designed to allow group discussions supported by booklets to promote such discussions.

FIRST AID TRAINING ASSISTANCE

The division has sponsored first aid training for workers under the Occupational Health & Safety Act through an annual agreement with the St. John Ambulance Association. The purpose of this program was to assist employers in meeting the requirements of the First Aid Regulations. Funding was provided by the Workers' Compensation Board.

First aid qualifications recognized by the division include standard, emergency and advanced and are valid for three years. Courses at these levels were scheduled to provide day and evening courses throughout the province in urban and rural areas of industrial activity. In addition courses were sponsored for employers unable to be accommodated in the general program due to shift work or large numbers of workers required to be trained and company courses instructed by in-house instructors.

During the five years under review over 59,000 workers were trained in the various levels.

Communications Section

The Communications Section provides public relations advice and counsel to the Minister and senior staff of the division, and manages the public relations function for the division. It is staffed by a Director of Communications, a public affairs officer and an administrative assistant.

Following transfer of the Occupational Health & Safety Division from Alberta Labour, all existing published promotional and informational material was reviewed for the purpose of planning and reprinting requirements, revisions to materials, production of new materials and the deletion of unwanted stock. Distribution of materials was finally consolidated through the regional offices of Education & Program Development Branch.

A major promotional campaign entitled the "Alive" program, which was launched in 1977, was completed this year. The "Alive" program was a multi-media advertising campaign to increase public awareness of health and safety on the job. The centre piece of the campaign was a demonstration educational trailer which visited industrial sites, schools and public centres throughout the province. This program was reinforced with television and newspaper and posters. Elements of the television advertising campaign were selected to receive awards of merit.

Communications staff acted as spokespersons for the division in response to media enquiries, particularly where additional information was required following an industrial incident or media concern. Between 300 and 350 such media requests were handled each year. The staff also organized news conferences for the Minister following matters of public interest, including release of reports relating to construction safety, crane safety and coal mines safety.

Staff also provided background information for addresses made by the Minister at various functions.

Media interest in the division continued with major news events evolving around release of reports on safety in the oilfields, construction safety, crane safety and coal mine safety. Media coverage was encouraged as it continued to sustain the awareness of the hazards of the workplace including the collapse of the Roy Plaza Building in Lethbridge, and the drowning deaths of four City of Edmonton workers in a tunnel.

Media advertising was undertaken to announce public meetings, courses and seminars. Public service announcements were prepared for broadcast on regional radio and television stations. An advisory print campaign on trenching was produced by an advertising agency under the direction of communications staff. A further campaign on avoiding contacts with overhead power lines was undertaken in 1983.

The Communications Branch coordinated a seminar on "communication research" as part of the Annual Canada Safety Council meeting which was hosted by Alberta in 1983.

Additional services on behalf of the division included photographic services for major events and preparation of visual aids for seminars and conferences.

The staff prepared and published a bi-monthly magazine containing information on occupational health and safety distributed free to approximately 68,000 companies, unions and other interested persons.

A readership survey on the OH&S Magazine was designed and conducted by the Research Branch to identify the target audience "likes" and "dislikes" and the usefulness of the publication in increasing occupational health and safety awareness.

A major visual and editorial content overhaul was carried out on the magazine, based on results of the readership survey.

The division has participated in two programs which result in awards to workers who have escaped serious injury through the use of protective equipment.

Safety Supply Canada has awarded 192 "Gold Hardhats" to workers who have avoided serious injury through use of their hard hat.

The Canadian National Institute for the Blind has made "Wise Owl" presentations to 57 workers for using eye protection equipment to prevent eye injury.

Farm Safety Program

Farming is an occupation which is not subject to the provisions of the Occupational Health and Safety Act. Yet farming, today, is an occupation which is highly mechanized, uses a large variety of toxic chemicals and involves long hours of work. It is also an occupation that has a disproportionate number of work related accidents and injuries compared to most industrial occupations.

In 1977 a memorandum of agreement was signed between the Occupational Health & Safety Division and Alberta Agriculture to provide a Farm Safety Program. This program was to develop educational and advisory services to the agricultural community through existing agricultural agencies and voluntary organizations. The Farm Safety Program was established within Research & Education Services of the division cosponsored by Alberta Agriculture, and remained with the division until April 1, 1983, when it was transferred completely to Alberta Agriculture.

From the outset the educational programs were designed around three central themes: the farm family as a complete occupational unit; the use of farming organizations and rural services as delivery agencies; and the focus on "local" accidents.

With the assistance of 35 rural hospitals around the province, information on individuals injured in farm-related accidents, together with fatal accidents reported to the medical examiner's office, were entered into a farm accident monitoring system, designed and maintained by the program staff. With the consent of the patients, follow up investigation of the accidents was conducted. Using information drawn from the monitoring system and from the investigation reports, educational programs and safety workshops were developed. Each year approximately two workshops a week were held, mainly in the locations where accidents had been reported. During these workshops local farmers and their families discussed the types of accidents that had occurred.

A unique opportunity was taken to introduce farm safety to children in grades one to four in rural schools. A farm safety poster design contest was held each year resulting in a total of over 20,000 entries. The best poster designs in each grade were reproduced as full posters and additional good designs were reprinted into colouring safety workbooks for use in the rural schools. Many thousands of copies of the workbooks, together with teacher kits, were distributed.

Further school age programs were developed in conjunction with the 4-H Clubs, such as scavenger safety hunts, farm safety inspector programs, and televised programs on 4-H Clubtime.

A very successful series of activities was undertaken in cooperation with the Women of Unifarm dealing with the problems of stress in farming, especially with the relationship between stress and accidents. A handbook on dealing with stress in farming, along with associated workshops, were highlights of this activity.

Farm safety officers designed and delivered short seminars to acquaint participants in the Summer Farm Employment Program with health and safety hazards on farms. Similar programs were delivered to participants in the Alberta Host Families Association, the Green Certificate Program and the Alberta Hakaidoo Dairy Farm Workers Exchange Program. A farm safety guide was developed and distributed to the young farmers at agricultural colleges and the Green Certificate Program.

Grants and awards were made to several organizations to encourage and sponsor activities in farm health and safety. The Farm Equipment Dealers Association of Alberta and British Columbia designed and produced a farmers' safety almanac which was distributed to farmers and farm associations throughout the province. This association also developed a contest for farmer inventors with ideas to prevent farm machinery accidents. The winning idea was an automatic locking system for power take-off units. Further grants in support of farm safety activities were provided to the Alberta Safety Council, 4-H Clubs, and agricultural societies. Bursaries valued at $ 250 each were awarded to students demonstrating the most initiative in safety projects in each of the agricultural colleges.

Agricultural fairs, held throughout the province during the summer months, were important opportunities to promote the Farm Safety Program. Special displays were created for these fairs, in particular a model farm, suggested by the Fort Kent 4-H Multi Club of Bonnyville, designed and constructed by a staff member. The model portrays potential accident situations on a farm. At several fairs an audiometric booth was incorporated into the display to promote hearing conservation. Over 5,000 hearing tests were conducted and informational materials were distributed to those participating. Pulmonary function tests were also conducted on about 800 farmers during one summer.

Three major instructional and motivational films were produced. The first, called "The Sixth Sense", described the dangers in handling livestock. To augment the various programs on stress management, "What Matters Most" was produced. Following a number of accidents involving round balers, the Farm Safety Program produced a film entitled "Three-tenths of a Second".

Many pamphlets were produced, describing the Farm Safety Program and providing information and guidance on a wide range of hazardous situations.

In 1980 and 1981 a series of papers on injury and disability insurance for farmers was developed. Following a recommendation from the 1980 Select Committee of the Legislative Assembly on Workers' Compensation, the staff assisted in the production of a position paper on workers' compensation for farmers and participated in many meetings with farming and related groups to answer questions and concerns.

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